CALIFORNIA
OIL WORLD
and Petroleum Industry

TULSA PUBLIC LIBRARY
TECHNICAL DEPARTMENT
TULSA, OKLAHOMA

Tulsa Public Library
Tulsa, Okla.
267-F
4-1-

E MONTHLY
NUARY 5,
1938

ADED 1909
Vol. 31
No. 1
Whole
No. 1504
EN CENTS

"...FREE ALL THE WAY TO BOTTOM!"
AND LOOK AT THIS CLOSE TOLERANCE!

DIAMETER OF HOLE 12¼ INCHES
DIAMETER OF CASING 10¾ INCHES
DIAMETER OF COLLAR 11⅛ INCHES
CLEARANCE BETWEEN COLLAR AND SIDEWALL 9/16 IN.

Here's performance for you—the kind of performance that operators the world over have learned to expect from Sievers Reamers! This particular job was run by a major oil company in one of California's toughest fields. Check over the report and you'll know why we say—"Ream with a Sievers and be SURE!"

" . . . A 12¼" hole had been drilled from 800' to 4100', carrying a Sievers Reamer between drill collars, when it became necessary to set 10¾" casing. To condition the hole for this casing, **only one run** was made using three Sievers Reamers with type No. 1-G-S cutters—one Reamer on bottom and two in tandem between the drill collars.

"The O. D. of the casing collars was 11⅛", **leaving only 9/16" clearance** in the 3300' of open hole below the surface pipe. It was mighty close clearance, but the pipe **was free all the way to bottom,** and was landed without mishap."

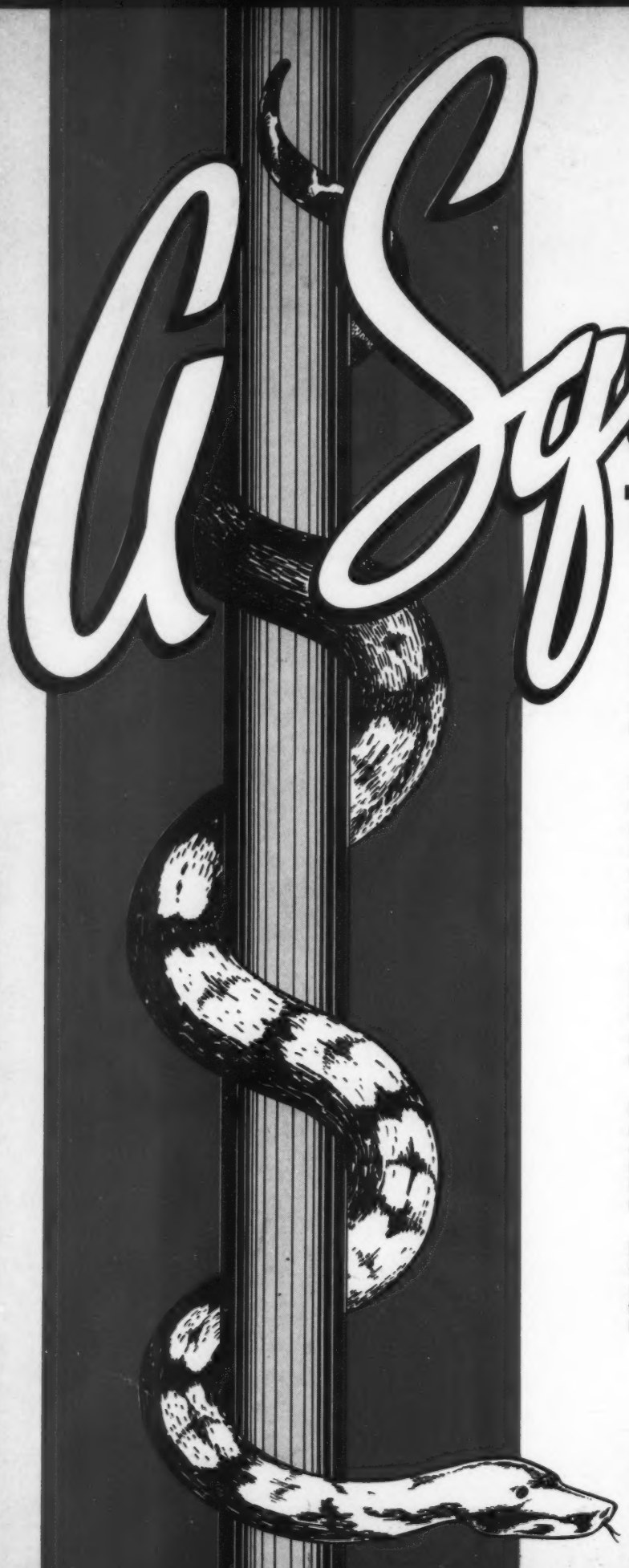
Only 9/16" clearance in 3300' of open hole IS mighty close clearance in anybody's well. It means that every single inch of hole has to be absolutely full-gauged and round, and completely free of "dog-legs". The fact that the Sievers Reamers did the job perfectly is just one more testimonial to its **fundamentally correct design**—a design that combines smooth, slicing, cutter action with maximum wall contact both vertically and around the circumference of the hole.

Whether Stabilizing or Reaming, ream with a Sievers and be SURE!

SIEVERS REAMERS

SECURITY ENGINEERING COMPANY, INC.

108 West Whittier Blvd., Whittier, California.
BAKERSFIELD—VENTURA—KETTLEMAN HILLS
Export: Security Engineering Co.,
420 Lexington Ave., New York City



a Squeeze THAT HOLDS

That's the kind of a grip you get with the Bowen Releasing Overshot, a grip that wraps completely around the "fish" like a boa constrictor, and cinches tighter as the load increases.

Yet, the Bowen Overshot can be released instantly when desired. A downward bump and a slight turn to the right does the trick, eliminating any danger of sticking the pipe if you find the fish can't be pulled.

It automatically packs off, too, on either drill pipe, collars or tool joints, and has a built-in milling device to smooth the ragged ends of twist-offs.

This is just one of the superior fishing tools that are at your service night and day. Remember that every Bowen Tool is a *dependable* tool. It can be counted upon to bring the fish to the surface with the greatest speed and safety.

Bowen Tools and Bowen Swift Deliveries are an unbeatable combination, so call Bowen next time you're in trouble. Stores are strategically located in all major California fields!

Where there's a well Bowen finds a way!

Patent Applied For

S.R. BOWEN CO.

VALLEY FISHING TOOL CO.

HUNTINGTON BEACH — LONG BEACH
SANTA FE SPRINGS — VENTURA
BAKERSFIELD — AVENAL

t050
1938
V.31 pt.1

CALIFORNIA
OIL WORLD
and Petroleum Industry

THE AUTHORITY ON THE CALIFORNIA OIL INDUSTRY

JANUARY 5, 1938
VOL. 31 » NO. 1
WHOLE NO. 1504

IN THIS ISSUE

Taxoline in 1937 3
Extend Oil and Gas Prospecting Permits 4
The Texas Co.—Chapter VI 5
Laugh This Off 12
Gravel Packing Improves Production 13
California Oil Inventories Advance 18
Production and Development 19
State Production Quota 20
Wildcats Hi-Jinks 21
Los Angeles Basin Development 22
San Joaquin Valley Development 25
Coastal District Development 27
State Drilling Report 29
Suppliers' News 30-31-32

PETROLEUM PUBLISHERS, INC. PETROLEUM SECURITIES BUILDING
LOS ANGELES, CALIFORNIA - MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

WALTER C. MONROE — President and Editor
M. S. FOX — Vice-Pres.
R. C. CONINE — Assoc.-Editor
R. N. RICHEY — Assoc.-Editor
DAVIS E. BROWNE — Secty.-Treas.
GEORGE S. MacDONELL — Advertising Manager
L. O. MILLER, Manager, California Oil World News Service

California Oil World and Petroleum Industry is published twice a month at 536 Petroleum Securities Bldg., 714 West Olympic Blvd., Los Angeles, California. Entered as Second-class Matter January 1, 1937, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price: $1 per year in U. S. and possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

"DRILL IN" WITH CABLE TOOLS

THE ALLSTEEL PRODUCTS MANUFACTURING CO.

(INCORPORATED)

TELEPHONE 4-4381
L.D.289

P.O. DRAWER 2001

CABLE ADDRESS
"ALLSTEEL"
"BENTLEY'S CODE"

WICHITA, KANSAS

December 20, 1937

Mr. Successful Producer
Anywhere In The World

Gentlemen:

We, in our small way, have assisted in making producing oil wells of many rotary drilled "dry holes" through designing and building combination rotary and cable tool drilling rigs.

As you probably know, there have been many rotary drilled wells that were apparently dry holes, from no other reason than that the mud pressure had forced the oil so far back into the paying strata and sealed the oil away from the well that when the well was bailed there was apparently no oil. Even the cores that had been taken in the producing area showed no oil, from the fact that the fluid pressure had forced the oil out of the oil bearing formation before the core barrel got to it.

The owners of our equipment have conclusively proven that many rotary drilled "dry holes" could have been saved and made good producers by "drilling in" with cable tools. This method of drilling oil wells has become almost universal practice in many fields, and is spreading very fast over the entire world.

Science has taught us all a lot of things, but with all our technical knowledge there is a requirement for the good old "horse sense." The two properly mixed, reduce the percentage of failures.

Our organization has definitely been progressive, with one objective--practical equipment, properly engineered, scientifically stress analyzed for light weight, plenty of strength and ease of operation, ever keeping in mind the importance of the lowest possible price.

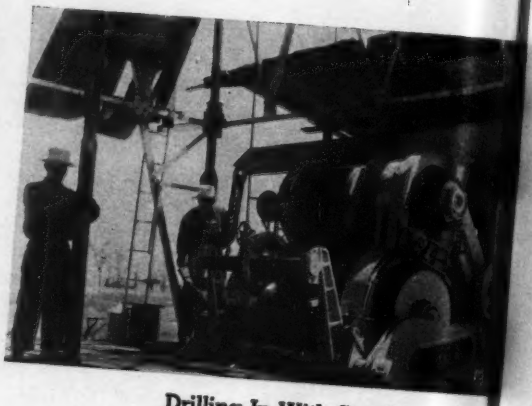
Yours very truly,

H. W. Cardwell
President

HWC:MM

CARDWELL
REG. U. S. PAT. OFF. TRADE MARK

Drilling With Rotary Tools To Just Above T



Drilling In With Spudder.

Making Initial Production Test.

Drilling In With Beam.

ALLSTEEL PRODUCTS MFG. CO.

Wichita, Kansas, U. S. A.

801 SO. WICHITA ST., P. O. DRAWER 2001

CABLE ADDRESS "ALLSTEEL" PHONES L. D. 289, LOCAL 4-4381—4-4389

F. J. "Ole" OLSON - - California Representative

530 Petroleum Securities Bldg. - - Los Angeles, Cal.

CARDWELL
REG. U. S. PAT. OFF. TRADE MARK

Telephones PRospect 1861 - - PRospect 5[illegible]

CALIFO
PETROLE

CALIFORNIA
OIL WORLD
and Petroleum Industry

t05v
1938

Taxoline in 1937

Motorists in 1937 paid more than a billion and a half dollars to state, federal and municipal authorities for the privilege of using their automobiles, according to estimates of the American Petroleum Industries committee. The increase of $125,000,000 over the motorists' 1936 tax bill reflects an increase of 2,000,000 in the total number of motor vehicles traveling the highways of the United States. This expansion in automobile ownership is found to be principally among the lower-income families, and is ascribed to the low prices ranging for used cars, motor fuel and lubricants.

Taxes add at least a third to the price of gasoline on an average for the country. The motor fuel tax bill alone for 1937 is estimated at $970,000,000, with federal excise taxes adding $130,000,000, state motor vehicle registration fees adding $375,000,000, and automotive personal property, city and county taxes adding $75,000,000. These levies, it is pointed out, are quite aside from, and additional to, all the regular taxes every motorist pays as a citizen.

Without considering the question of whether or not a sum in excess of a billion and a half dollars, roundly $200,000,000 more than the entire nation's tax collections in 1900, is required to finance an adequate highway construction and maintenance program, it should be certain that there is no valid excuse for diversion of the tax collected from motorists for general purposes. It is estimated that $1 out of every $6 paid in special additional taxes for highway financing was spent for purposes unrelated to highways in 1937.

Why not have an investigation of class legislation? There are millions of motorists who would be interested in knowing why they are singled out to pay special taxes for general purposes.

Oil and Gas Prospecting Permits Extended Year

ecretary of the Interior Harold L. Ickes announced today that he has issued an order extending to Dec. 31, 1938, all oil and gas prospecting permits outstanding on Dec. 31, 1937.

In granting this extension Secretary Ickes said that his decision to exercise the authority vested in him under existing law was prompted by the administrative delays necessarily incident to making the factual determinations required under the act of Aug. 26, 1937 (50 Stat. 842), and by his desire to grant an additional period of grace to the holders of permits with respect to which equities are claimed but which are not extende dto Dec. 31, 1939, by the act of Aug. 26, 1937. While the order of extension applies to all permits outstanding on Dec. 31, 1937, it does not deprive any permittee of the extension to Dec. 31, 1939, granted by the act of Aug. 26, 1937, to those permits which fall within one or more of the five classes specified in the act. Permits granted the two-year extension by law are included in the general order of extension so that diligent compliance with the terms of such permits may be continued with assurance during the period of time consumed in making the necessary factual determinations under the act of Aug. 26, 1937.

Permits which, on Dec. 31, 1937, do not fall in one or more of the five classes of permits specified in the act of Aug. 26, 1937, are not granted an extension to Dec. 31, 1939, by that act and cannot under any circumstances qualify for or become legally entitled to any extension beyond Dec. 31, 1938. They are being extended only to that date and only for the purpose of allowing the permittees this final period within which to ripen their permits into leases under the act of Feb. 25, 1920, as amended, or to exchange them for leases under the act of Aug. 21, 1935.

All permits extended by the order are thereby placed in good standing so that notices of intention to drill may receive immediate approval.

The Secretary stated that prompt reply would be made to all inquiries as to whether any permit was in fact outstanding on Dec. 31, 1937, and therefore comes within the terms of the order of extension. Permittees who have filed applications to exchange their permits for leases will be afforded an opportunity to elect whether to accept the additional year's extension granted by this order or to take the exchange lease.

Secretary Ickes emphatically declared that the extension to December 31, 1938, granted by the Department, and the two-year extension to Dec. 31, 1939, granted by the act of Aug. 26, 1937, are the final years of the permit system and that any permittee who fails to earn the right to a lease under the act of Feb. 25, 1920, as amended, during the final period allowed him can continue prospecting work on the land only if he secures a lease under the act of Aug. 21, 1935, in exchange for his permit.

The extension order does not affect or revive oil and gas prospecting permits which have been canceled by the Department prior to Dec. 31, 1937, or which have terminated at the end of their current term, or which have already been exchanged for leases.

Greeley-Canal Postings

Effective 7 a.m. December 22, 1937, the Standard Oil Co. of California announced posting of prices it offers for crude oil in the Greeley and Canal fields, Kern county, ranging from 84 cents for 27 gravity to $1.64 for 48 gravity and above.

(The Canal field is new. It is located about six miles southwest of the center of the Greeley field.)

Since December 22, 1937, at 7 a.m., the following are the prices of Standard Oil Co. of California for its current purchases of crude oil at the well in the Greeley and Canal fields:

27 to 27.9 gravity, 84 cents; 28 gravity, 88 cents; 29 gravity, 92 cents; 30 gravity, 95 cents; 31 gravity, 99 cents; 32 gravity, $1.03; 33 gravity, $1.07; 34 gravity, $1.11; 35 gravity, $1.15; 36 gravity, $1.19; 37 gravity, $1.23; 38 gravity, $1.27; 39 gravity, $1.31; 40 gravity, $1.34; 41 gravity, $1.38; 42 gravity, $1.41; 43 gravity, $1.45; 44 gravity, $1.49; 45 gravity, $1.53; 46 gravity, $1.56; 47 gravity, $1.60; 48 gravity and above, $1.64. No changes in other fields.

Gasoline Sales Hold Seasonal Advantage

California taxable gasoline sales continued to gain during November.

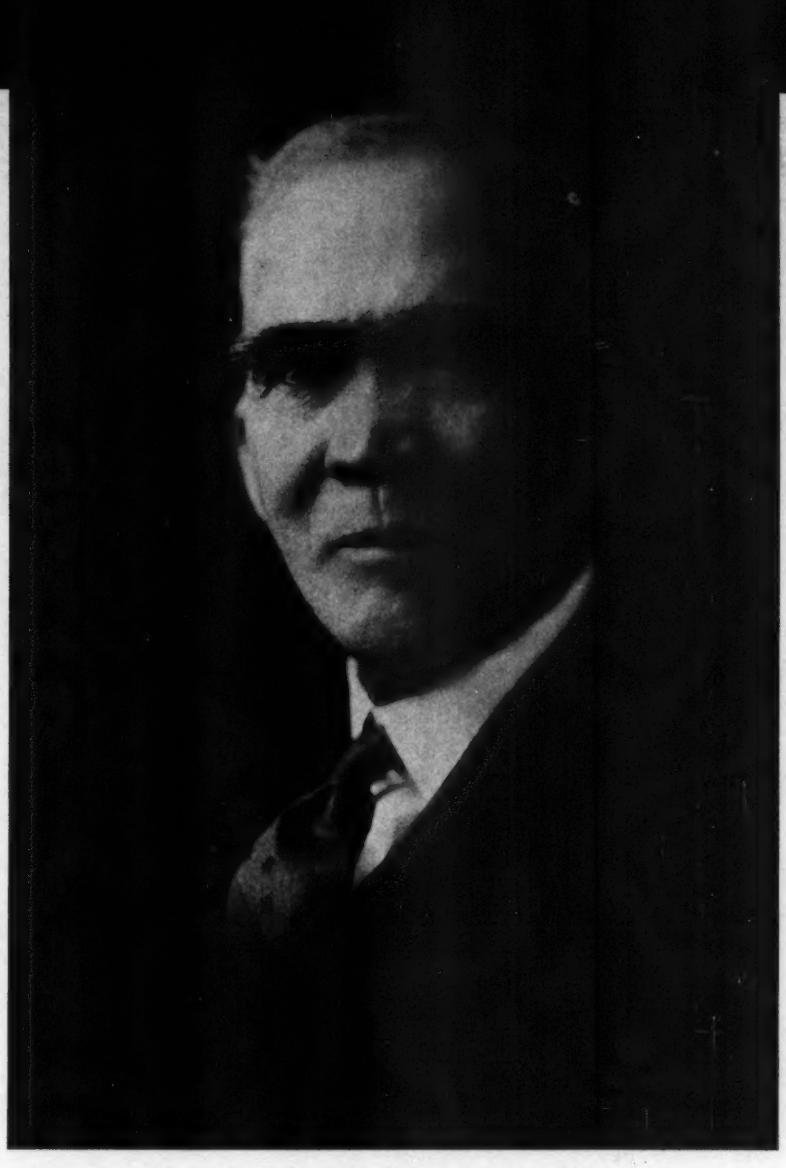
The tax, assessed against the sale of 140,281,207 gallons of gasoline, amounted to $4,208,436.21 for the month of November, a gain of 1.90% over the same month of the previous year and slightly under the tax of $4,308,581.28 reported for October, 1937.

The November income brought the total gasoline tax collections up to $47,177,-097.04 for the calendar year and bore out predictions of board of equalization officials that the revenue from the tax during 1937 would be in excess of $50,-000,000 for the first time in the history of the state.

Oil companies reporting sales of more than 300,000 gallons in November were listed by the board with the explanation that resale of gasoline previously taxed or exempt sales to the federal government or in interstate commerce accounted for differences between total and taxable sales. These companies were as follows:

	Net Taxable Gallonage	Gallons Actually Sold
Standard O. Co. of Calif.	24,557,283	58,439,701
Shell Oil Co.	16,274,170	32,599,128
Richfield Oil Corp.	13,408,550	23,098,535
Union Oil Co. of Calif.	13,331,954	26,201,832
General Pet. Corp.	11,489,210	24,292,926
Tidewater Asso. Oil Co.	10,893,433	20,459,410
Wilshire Oil Co., Ltd.	7,356,184	7,791,243
The Texas Co.	6,443,307	12,368,485
Mohawk Petroleum Co.	3,114,486	3,248,494
H neock Oil Co.	2,739,382	2,850,087
Pac. States Oil Term.	2,628,089	2,628,089
Caminol Co., Ltd.	2,558,245	2,564,258
Macmillan Pet. Corp.	2,502,042	2,691,444
Norwalk Co.	1,813,010	2,403,006
Estado Petroleum Corp.	1,738,167	1,638,520
Olympic Refining Co.	1,729,202	1,731,056
Seaside Oil Co.	1,595,569	3,474,091
Exeter Refining Co.	1,366,599	1,366,654
McCallen Rfg.&Prd. Co.	1,117,158	1,262,349
Socal Oil & Refin. Co.	1,079,329	1,079,323
R. R. Bush Oil Co.	1,078,012	1,078,150
St. Helens Pet. Co., Ltd.	938,455	938,033
Los Nietos Prod. & Refg. Co., Ltd.	833,507	3,211,549
Envoy Petroleum Co.	833,311	833,311
Rothschild Oil Co.	735,632	739,557
Operators O. & Rfg. Co.	733,873	733,873
Bachmann Pet. Corp.	728,480	736,987
El Tejon Refining Co.	669,964	694,104
Edington Oil & Refining Co., Ltd.	643,034	643,034
Triangle Oil & Rfg. Co.	637,486	637,486
Krieger Oil Co.	498,430	498,430
El Camino Refining Co.	491,441	510,392
East West Refining Co.	473,566	473,566
Eagle O.&Rfg. Co., Ltd.	448,846	450,028
Aromalene, Inc.	446,254	445,852
Elm Oil Co., Ltd.	417,332	417,332
San Fernando Rfg. Co.	372,948	372,962
Harbor Refining Co.	366,944	369,674
Mercury Pet. Corp.	366,448	366,448
All Others	831,875	.....
Total October	140,281,207	
Total September	150,780,327	
Decrease	10,499,120	
Total to October 31	1,439,957,169	

This is the fourth installment of the story of The Texas Co., and continues the series being presented by the California Oil World and Mitchum, Tully & Co., California investment dealers, on the companies making up the California oil industry of today.



P. H. "Patsy" O'Neil

The Texas Company, California

Chapter IV—Maturity—1921-1928

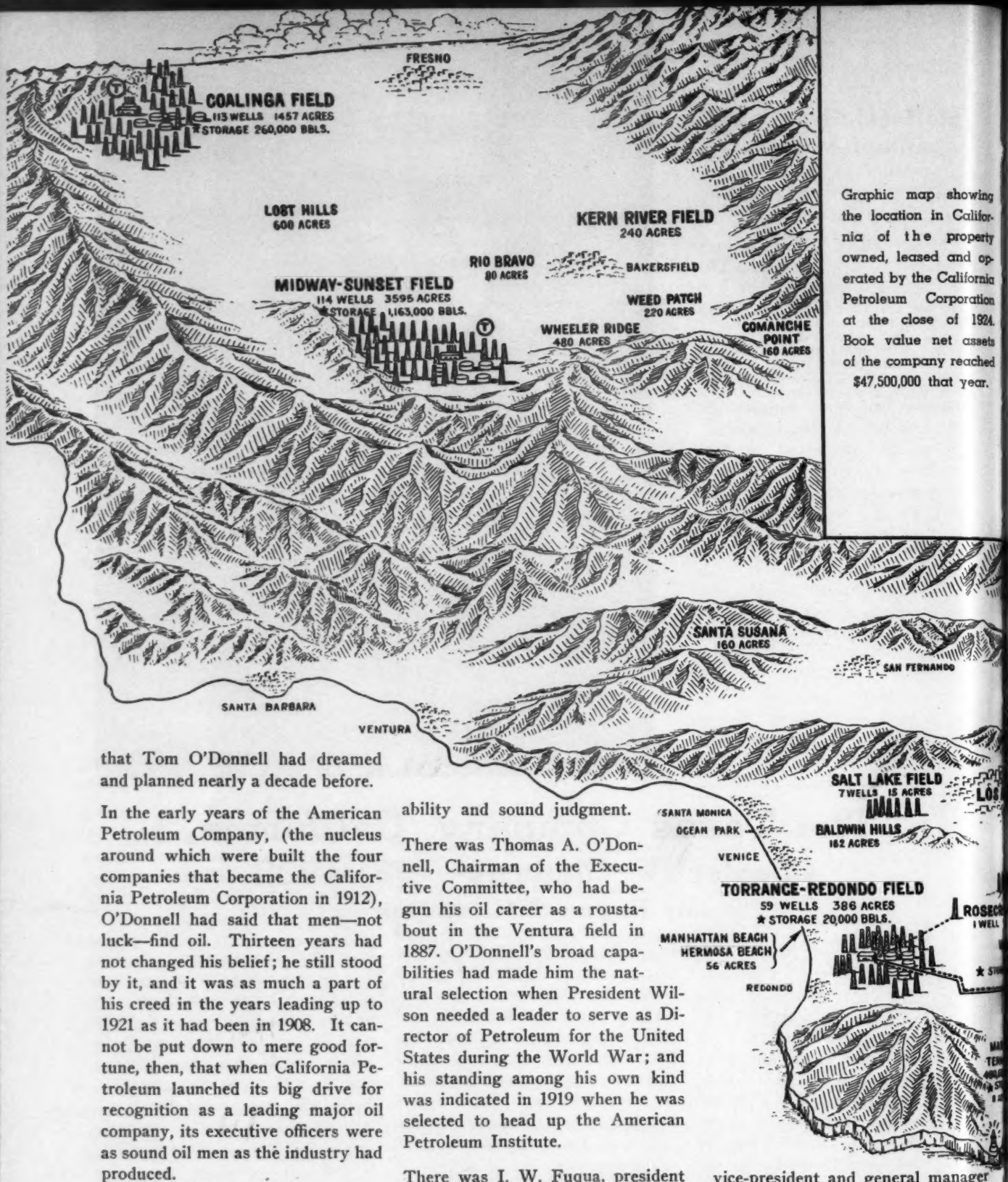
By Eugene I. Harrington

Nineteen twenty-one was a thumping good year for oil in California. Producers received an average price of $1.80 a barrel for their crude, an almost unprecedented high, and the state's production topped all former records when it reached 114 million barrels for the year. For a number of years there had been a steady drain on storage, and in January there were only 19 million barrels in the state's reservoirs, a meagre sixty days' supply.

Aviation had come into its own during the World War and, in the years that immediately followed, that growing industry provided a sizable market for high test gasoline. Motor vehicle registration in the United States had increased astonishingly since the signing of the armistice and the average American family no longer looked upon the automobile as a luxury. It was the era of John Held, Jr., and F. Scott Fitzgerald; gasoline had become the symbol of a new day as the horse and buggy was consigned to the scrap heap and the post-war generation (oldsters as well as youth) restlessly sought more and more speed.

Entering the New Era

Into this changing and expanding market the California Petroleum Corporation leaped with both feet. The company began to develop some of the lands it had been steadily acquiring since 1916 and in the first year of the new decade nearly 4 million barrels of oil were pumped from its wells, now numbering 207. Total sales approached the 5-million-dollar mark and the company's surplus for 1921 was more than $2,500,000. It owned or had under lease substantial acreage in practically every important field in California. And although the corporation's development had been slow, it had also been steady and sound; California Petroleum was at last ready to carry out the ambitious program



Graphic map showing the location in California of the property owned, leased and operated by the California Petroleum Corporation at the close of 1924. Book value net assets of the company reached $47,500,000 that year.

that Tom O'Donnell had dreamed and planned nearly a decade before.

In the early years of the American Petroleum Company, (the nucleus around which were built the four companies that became the California Petroleum Corporation in 1912), O'Donnell had said that men—not luck—find oil. Thirteen years had not changed his belief; he still stood by it, and it was as much a part of his creed in the years leading up to 1921 as it had been in 1908. It cannot be put down to mere good fortune, then, that when California Petroleum launched its big drive for recognition as a leading major oil company, its executive officers were as sound oil men as the industry had produced.

Seasoned Men

California Petroleum had reason to be proud of the men who had patiently guided it through the hazards of a difficult decade; they were men who had started humbly and had risen to the top through hard work, ability and sound judgment.

There was Thomas A. O'Donnell, Chairman of the Executive Committee, who had begun his oil career as a roustabout in the Ventura field in 1887. O'Donnell's broad capabilities had made him the natural selection when President Wilson needed a leader to serve as Director of Petroleum for the United States during the World War; and his standing among his own kind was indicated in 1919 when he was selected to head up the American Petroleum Institute.

There was I. W. Fuqua, president of the company, who joined American Oilfields Company in 1910 as an assistant field superintendent in the Midway field and who had climbed steadily up until he reached the top rung of the ladder in 1918.

There was Thomas J. Crumpton, vice-president and general manager of production, who had tramped the barren, sun-baked land west of Coalinga with O'Donnell in 1908, acting as his right hand through the period of adolescent growth, and who now directed the all-important producing activities of the company.

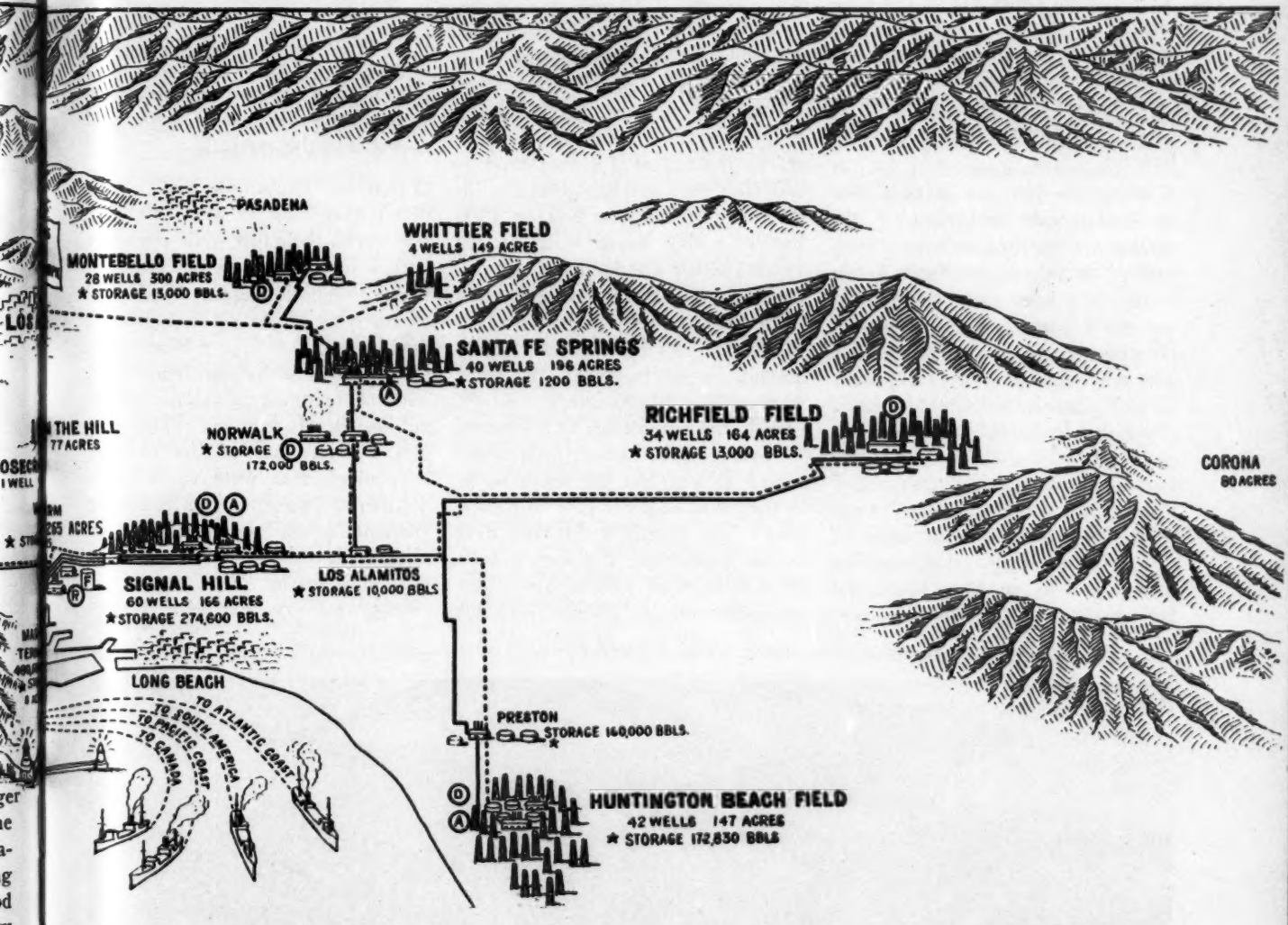
There was L. P. St. Clair, vice-president, who had been one of the organizers and first leaders of the Independent Oil Producers Agency and who, like his friend O'Donnell, had been through the mill and was an acknowledged industry leader.

There was W. D. Stewart, secretary and treasurer of the company, who had started his business career 30 years before as a gas company collector earning $4 a week, and who had joined the company as a clerk in 1911 and worked his way up until he was elected an officer and director in 1918.

And, finally, there was Jacques Vinmont, key New York director and financial genius, who had served on the California Petroleum Board since 1917. He was an investment banker by training but from the day of his connection with California Petroleum he had shown the kind of broad capabilities that are as valuable to an oil company as they are to a banking firm. And, as most everyone knows, his vigorous application and natural adaptability to the oil business culminated in his selection, in 1923, as Chairman of the California Petroleum Executive Committee and, in 1927, as president of the corporation, where he served until it became a part of the Texas Corporation.

Spectacular Growth

Together these men started their company on its way toward a new leadership in the banner oil year of 1921. A vigorous drilling program was started on recently acquired lands and during the year production crews sank five new wells in the Midway district, eight at Huntington Beach, one at Montebello and seventeen in the Yorba Linda field. These 31 new wells averaged 237 barrels of oil a day during the year and added nearly a million barrels to the company's 1921 production total of 4,265,114 barrels of crude. Sales of crude and tops amounted to more than seven million dollars for the



In addition to the oil wells, pipelines, storage tanks, pump stations which are noted by the familiar symbols, the circled letters identify structures as follows: A, absorption plant; D, dehydrating plant; R, refinery; T, topping plant, and F, foamite storage. The stars denote storage capacity.

year and the corporation earned a gross income of nearly seven and a half million dollars.

More impressive even than the sudden rise in production, sales and gross income, was the progress the company made in the development of lands it held and in the acquisition of other promising oil acreage. Its Yorba Linda properties, most of which had been secured the previous year, yielded over 1,000,000 barrels of crude in 1921, and its success with the wells drilled at Huntington Beach was a precursor of the gigantic oil boom that was shortly to make the Los Angeles Basin the richest and most sensational pool in the world.

At a director's meeting of the California Petroleum Corporation in March, 1922, president "Booky" Fuqua held his enthusiasm about the new properties of the company in check in a talk that ran something like this:

"During the year we made a nice production gain and some of the acreage we acquired turned out very well. Our wells in the Yorba Linda fields have been steady producers and we're making fine progress at Huntington where we're drilling nine new wells at the present time. There's a small field down by Long Beach that looks like it has excellent possibilities; it's known as Signal Hill. O'Donnell, Crumpton and I think that a portion of the 87 acres we hold is favorably located. Of course, we can't tell yet, but within thirty days we ought to know just how good the field and our land really are. There's another field several miles south of Whittier that we're pretty hopeful about, too. It's called Santa Fe Springs and the discovery well, which was brought in last year, had an initial flow of 2,000 barrels of 32 gravity oil. That's part of the story—the rest of it is that production from that well has gradually increased until it's now flowing 3,900 barrels a day which is a mighty sweet average and indicates the tremendous potential of the pool. We have been sticking pretty close to the field and we've been lucky enough to get leases on 299 acres surrounding the discovery well. Of course, the boundaries of the Santa Fe Springs pool haven't been determined as yet, but the wells we're drilling now ought to give us a good idea of its extent within the next couple of months. I'm sorry I can't be a little more definite about our prospects in these two new fields but perhaps I'll have some good news for you at our next meeting. For your private information, however, its my opinion that we have something quite good and I'm personally quite optimistic about our future production possibilities."

Chairman O'Donnell on an inspection tour of California with A. C. Bedford, president of Standard Oil Co. of New Jersey.

A conservative statement, that, but between the lines was an enthusiasm that none of the three production experts of the California Petroleum Corporation dared express. The members of that triumvirate agreed that they were on the brink of some spectacular discoveries. If they had been advertising men, rather than hard-headed oil men, they might have chosen more glowing terms in forecasting the future of their company. But they were cautious and conservative, and experience had long before taught them to be wary of new fields. So they held a tight rein on their tongues and anxiously watched the drills going deeper and deeper into the earth.

O'Donnell, Crumpton and Fuqua didn't have long to wait; within a few weeks their test wells roared in with a force that was beyond even their enthusiastic hopes. By the end of the year Signal Hill, Santa Fe Springs and Huntington Beach were the sensation of the petroleum world with a combined production of 40 million barrels for 1922. That was just a forerunner of the exciting happenings that were to occur in Southern California the following year, but it was the start of an oil boom that was to dwarf anything the oil industry had ever known. During the very next year, Angele-

View of the refinery office and staff at Wilmington, taken at the time of the first Annual Tour in 1924.

nos were to watch, with mouths agape, as thousands of derricks sprang up and 183,000,000 barrels of oil came pouring out of those three amazing fields.

Hopes Fulfilled

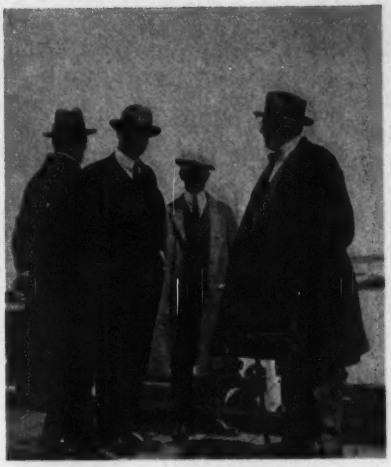
In 1922 the net assets of the California Petroleum Corporation increased more than 8 million dollars and gross income rose from $7,500,000 to nearly $12,000,000. Although prices were somewhat decreased, gross sales approached the 11-million-dollar mark and production, totaling 8,000,000 barrels, was nearly double that of the year before. The company's 31 Signal Hill, Santa Fe Springs and Huntington Beach wells yielded 3,966,332 barrels of crude. In February, 1923, one of Crumpton's drilling crews brought in a record-breaking 9,000-barrel well on one of the company's leases at the Springs and a new deep sand, which gave promise of even heavier production than ever, was discovered at Huntington Beach. The company added to its acreage in the Los Angeles Basin and in March it controlled 696 acres on which 30 new wells were being drilled. It had not all been smooth sailing for the production department; properties that the company had acquired in Texas, in Kentucky, and in the Buttonwillow district of California had proven worthless, but in a gusher year like '23 such disappointments as a dry field or two were hardly noticed. The oil industry of California was booming and keeping pace at every step was the company that Tom O'Donnell had proudly reared through childhood and adolescence.

As production soared, other expansion was taking place within the company. In 1922 a large compressor plant was completed at Signal Hill and at the year-end another was under construction at Santa Fe Springs. Three absorption plants were completed and two more were in the process of building. Two hundred and sixty-five acres near San Pedro Harbor had been purchased as the site for a refinery and tank farm; storage facilities had been increased by 327,000 barrels and at the close of 1922 thirty new 80,000-barrel steel tanks were on order. The $2,000,000 Western Oil Company, with 200 acres of proven and prospective land in the Los Angeles Basin, was acquired during the year and by the spring of 1923 production on its property had been increased from 3,700 to 10,000 barrels of oil a day. And with it came another colorful character in the California Petroleum family. His name was "Patsy" O'Neil and he was to prove more valuable to the company than any land that was involved in the transaction. He was cut in the same pattern as his fellow director, Tom O'Donnell; they had both started at the bottom, one as a miner, the other as a cattle rancher, and both had come west at an early age, attracted by the stories of oil discoveries on the Pacific slope. These two were an ideal pair; with their quick Irish wit, their love of trading and their singular ability to inspire loyalty and friendship. A few years later they were to exert an influence that was to carry their company to the heights and finally to consolidation with one of the mightiest oil companies in the world.

The Biggest Year

Everything considered, 1923 was the biggest year California Petroleum Corporation had yet had. That year 66 new wells produced 7½ million barrels of oil and production reached a new high at 17,410,000 barrels. Sales passed the $17,000,000 mark and net assets were listed at $45,675,807 at the close of the year. Tom O'Donnell and his friend, A. C. Bedford, president of Standard Oil of New Jersey, agreed on a deal that called for delivery of 36,000,000 barrels of California petroleum oil to Standard tankers over a 3-year period. New acreage was acquired at Midway, Wheeler Ridge, Compton, Puente Hills and Carmenita, and development work was immediately begun in each of these fields. Overproduction had forced prices down but in the corporation's report to its stockholders at the end of 1923 gross earnings were shown at more than 20 million dollars and net profit was listed at $6,104,498.91.

The march toward integration that had begun two years before was nearing completion. In 1923 a topping plant with a daily capacity of 5,000 barrels of crude was erected at Watson. A modern marine terminal with 935 feet of wharfage and the finest pumping and loading equipment, tanks and fire apparatus was constructed at San Pedro Harbor. The company's Watson tank farm had a capacity of 3,360,000 barrels and 95 miles of main pipe line con-



T. A. O'Donnell and C. E. Olmsted looking over the new marine terminal built by the corporation at San Pedro Harbor in 1923.

View of the Santa Fe Springs field with the compressor and absorption plants of the company in the foreground.

nected the Southern California fields with the refinery, tank farm and marine terminal. The capacity of the absorption plants at Signal Hill and the Springs was increased and during the year these plants produced over 3,000,000 gallons of gasoline and saved and sold almost 6 billion feet of dry gas.

In 1924 California Petroleum continued to develop its producing properties and to expand intensively its refining and transportation activities. That year the company drilled 107 new wells and its total production was 14,548,000 barrels of crude. The capacity of its Watson topping plant was increased, 40 miles of pipe line were added to the system and 103 full cargoes of oil were shipped from its marine terminal. Consumption of the state's petroleum products had tripled in the 12 years since the corporation's formation and California Petroleum, grown mature, now stood ready to take the final step that would place it alongside the great oil companies of the West.

The Final Step

Now that production, refining and transportation were on solid ground, the company turned its attention to the long neglected marketing end of its business. The first indication that California Petroleum was to enter the retail gasoline market in competition with the so-called "majors" came in June, 1925, when the Olympic Calpet Refining Company was organized in Seattle. Plans were quickly drawn for the construction of a marine terminal and refinery and company officials announced that fuel oil and refined products would be marketed in the Northwest. This was the first sign of Calpet's interest in retail sales, but before the year was out the company was to enter the western oil marketing scene in earnest. On October 1, 1925, Jacques Vinmont, Executive Committee Chairman of the company, announced the acquisition of Mohawk Oil Company, and oil men knew that California Petroleum was at last entering the sales field as aggressively as it had tackled production and refining in other years. For Mohawk was a potent independent, with 2,000 employees (all of whom joined Calpet), 16 producing wells and small refineries at San Francisco, Coalinga and Santa Fe Springs. C. L. Coppage, former vice-president of Mohawk and newly appointed vice-president and director of sales for California Petroleum, announced that regular Mohawk customers would be offered Calpet Gasoline from modern tank trucks and that 8 new company service stations would shortly offer Calpet Gasoline to motorists of the San Francisco Bay area.

Almost immediately following the California Petroleum Corporation's purchase of Mohawk, the company acquired the 25-year-old Ventura Consolidated Oilfields and its seven subsidiary companies. The Ventura had been founded in 1900 and during a quarter of a century of shrewd management and sturdy growth it had earned a reputation as one of the most important independent oil companies in California. Once again California Petroleum added valuable men to its growing organization as well as proven and productive properties, additional refining capacity and hundreds of service stations and retail sales outlets for its gasoline.

Integration at Last

And so the California Petroleum Corporation grew and prospered. At the close of '25 the directors announced a net profit of $6,294,852.45, the largest in the history of the company. Early in 1926 Calpet purchased the California Gasoline Corporation, second largest producer of casinghead gasoline in the state and owner of five absorption plants with an average production of 65,000 gallons of natural gasoline a day. New service stations were opened at strategic points along the Pacific Coast and by the end of that year the company was well on its way to marketing success.

In October Jacques Vinmont was elected president of California Petroleum on the resignation of R. L. Peeler who had succeeded "Booky" Fuqua in 1924. In 1926, the company's wells produced 15½ million barrels of crude, daily refining capacity was increased to 55,000 barrels, 100 miles of pipe line were added to its transportation system and a fleet of 5 oil tankers was purchased. That year the company acquired the Northern Star Oil and Refining Company and its subsidiary companies. The new company brought to California Petroleum extensive acreage in Montana and Canada, a 12,000-barrel capacity refinery at Sunburst, Montana, and strong sales contacts in the Rocky Mountain area. Shortly after the Northern Star purchase, the California Petroleum Corporation of Utah was organized to develop 2,500 acres of prospective oil land in the La Barge field and the parent company simultaneously acquired the Petroleum Export Corporation and its casing and canning plant at Los Angeles harbor. New markets were opened and developed, sales hit a new peak of $30,000,000 and Calpet Gasoline poured into the tanks of motorists from Canada to Mexico and from the Pacific to the Mississippi. Thirteen other countries were beginning to know the products of California Petroleum's refineries as the aggressive sales department sought and found new markets to the South and across the Pacific.

Thus, the California Petroleum Corporation entered the final year of business under its own name as a completely matured and integrated company, recognized as one of the dominant factors in the giant petroleum industry of the west. Nineteen twenty-seven was another year of growth, but for the first time since the flush production days the industry was seriously beset by over-production, curtailment, retail gas wars and generally disquieting conditions. Nevertheless the expansion of the

company continued; that year 17 million barrels of crude and 38 million gallons of casinghead gasoline were produced, refinery capacities were increased and pipe lines were lengthened. Development work continued, oil was discovered on the Wyoming leases and the California Petroleum Corporation of Venezuela, a new subsidiary, was granted exploration rights on 750,000 acres in South America. During 1927 gross sales of the company amounted to more than $37,000,000 and by the end of the year California Petroleum owned 50 bulk plants and 141 service stations on the Pacific Coast.

In less than two decades the company had grown far beyond the confines of its home state and it was now reaching out for world markets. Its growth had been spectacular since the oil boom of '23 and as its production, refining, transportation and marketing facilities continued to grow, California Petroleum began to look beyond its own limited horizon toward world expansion. The hopes that Tom O'Donnell had had for his company and men were nearly realized and as the year ended negotiations were opened with the mighty Texas Corporation.

In the fifth and final chapter we shall tell of the completion of those negotiations and of how California Petroleum and its men joined hands with the Texas Corporation and, as an autonomous California subsidiary, took its long-sought place as a recognized leader in the oil industry of California.

In 1923 California Petroleum Corp. built this 5,000-bbl. topping plant at Watson for the purpose of furnishing fuel oil for bunkering purposes for ships loading at the corporation's terminal station.

1937 Was Year For Records In Industry

For the American petroleum industry, 1937 was a year of new records. It was outstanding also in that a high degree of orderliness prevailed despite unprecedented activity. Once again the industry's traditional ability to meet successfully the tests of changing conditions functioned to provide for its customers quality products and efficient service at reasonable prices.

The nation's approximately 30,000,000 motorists used their vehicles to a greater extent than ever before, consuming more than 22,000,000,000 gallons of motor fuel. This volume is sufficient to propel their vehicles an aggregate distance of 330,000,000,000 miles, or about 80,000,000,000 miles farther than estimated travel in 1931, the pre-depression peak year for highway transportation.

Heavy Consumer Taxes

Prices of petroleum products continued low, government indices indicating a level of nearly 40% below normal, as against an advance in the general commodity price level to within 11% of normal. Due to reductions in gasoline prices totaling 50% since 1920, some $3,000,000,000 was saved to motorist customers in 1937 alone. However, nearly a third of these savings was taken from them in federal and state gasoline sales taxes which, estimated at close to $1,000,000,000, also established a new record.

Highest Pay

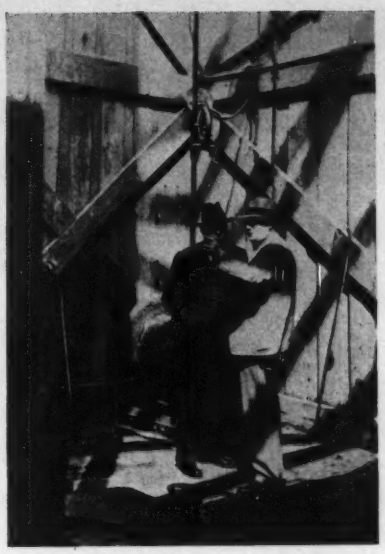
Employment and pay rolls improved. Generally speaking, the industry's employes continued to be among the highest-paid industrial workers.

Industry Activity Up

Relatively stable crude-oil prices and continuing large production brought a measure of prosperity to the oil-producing areas. Domestic crude-oil production for 1937 is estimated at 1,280,000,000 barrels as against 1,098,516,000 barrels in 1936, until now the all-time peak year. Approximately 7,000 more wells were drilled in 1937 than in 1936. Total completions, estimated at 32,500 wells, were only slightly fewer than in the record year, 1920. Of these wells, 26,200 were productive either of oil or natural gas.

Production, discoveries, and completions were such during the year that reserves of petroleum in the United States remain at a satisfactory level. Improvements in drilling and production technique, the restoration of older fields and prolongation of the productive life of newer oil areas, plus the functioning of state conservation laws under the guidance of the state officials aided by the Interstate Compact Commission, augur well for the future.

Additional confidence may be found in progress in the science of refining, with more and better refined products being obtained from given quantities of crude. During 1937, with demands at new peaks, refiners ran to stills 1,180,000,000 barrels of crude oil, or only slightly more than 100,000,000 barrels above 1936. Crude oil stocks, as of Dec. 31, 1937, are estimated at 302,000,000 barrels, or approximately 107,000,000 bbls. below the all-time peak, Oct. 31, 1929.



"Frosty" Martin in Roumania

In the course of a world's tour in the interests of the Martin-Decker Corp. and its customers, W. R. (Frosty) Martin, president of the corporation, was recently snapped getting the fine points on Roumanian drilling technique from R. Koste.

"Frosty" left last July on his trip around the world, and will visit all the major production centers, learning first hand the particular production and drilling problems in each territory. He will renew acquaintance with Martin-Decker's many friends and customers around the globe.

LAUGH THIS OFF

A banquet, according to **Bill Ackerman,** our San Francisco correspondent, is a fifty-cent dinner for five bucks.

And by the same token we might add that curiosity is a group of men spending $100,000 on a dry hole.

"Firstly," **Bill Geis** quotes a young corporation lawyer stoutly defending his client, "I intend to show that the defendant never borrowed the drilling equipment. Secondly, I shall show that it was in a badly run down condition when he borrowed it. And thirdly, I shall prove that it was whole when he returned it."

Which recalls, says **Floyd Webster,** the predicament of the young lawyer who went home and proudly announced, "Well, dad. I finally settled that Oleaginous Oil Company case." "You dumb-bell!" exploded the old man, "I gave you that case as an annuity.

Now comes **Al Gore** telling about an Irish roustabout who picked a fight with a perfect stranger because his friends were all away on vacations.

And **Pop Arnold** says his cat has been despondent ever since he took home a mouse trap.

We refuse to name the successful oil man, however, who never forgets on his birthday to send a telegram of congratulation to his mother.

Dub Russell describes golf as a game that begins with a ball and ends with a highball.

And when **Ed Leabow** was asked if a certain individual had wiped out what he owed him, he replied, "No. He isn't that kind of a sponge."

Frank Young says the most even tempered guy he ever knew was a pumper out at Santa Fe Springs. He was mad all the time.

While **Andy Anderson** declares that when a local lad was suddenly stricken with acute appendicitis, the town paper reported: "Bill Binks will be operated on tomorrow for appendicitis. He will leave a wife and five children."

Proving once more than in the first place the doctor pays the visit, but eventually the visit pays the doctor.

Harry Hensell is our authority for the fact that a producing company out Huntington Beach way kept a warning sign on the fourble board of the derrick for two years, but nobody fell down, so they took it away.

And **Russ Havenstrite,** after listening to a long dissertation on golf, admitted that he played the game, too, but on a horse with mallets.

"There's something very dirty about this doghouse," said the superintendent, and the rousty remarked quietly, "Well, there wasn't before you came in."

"I doubt if your husband will ever be able to work again," said the doctor somewhat sadly, and the pumper's wife replied, "Oh I must tell him, doctor, it will cheer him up immensely."

Bruce Robinson, by the way, defines relatives as people who are always wondering how the heck you ever get by.

And **Harry Lee** tells us about a fighting champion who traveled incognito. He was unmercifully beaten by a little fellow who failed to recognize him.

All of which shows that fighters as a class are really as gentle as a lam, **Mark Woolery** opines.

Now with the advent of the New Year, the machinery of the petroleum industry is being speeded up greatly. The resolutions per minute are something terrific at the moment, and in the manner of the financial wizards we cordially predict that 1938 will be an outstanding year of prosperity, if a depression or something doesn't come along.

So stick to your perforation guns, my lads, and all will be wells.

It is reported that a local producer brought in a fabulous well up at Santa Barbara, but so far as we can find out by judicious inquiry the only fabulous thing about it is the story.

And the height of something or other is **Scotty Connelly's** story about the Caledonian, who told his boy, "If you mow the lawn every week, and water it regularly, you'll be five on your next birthday."

Did you ever hear, incidentally, about the girl who had three husbands, one after the other, of course, all oil men, and boasted that she was two chumps ahead of her sister?

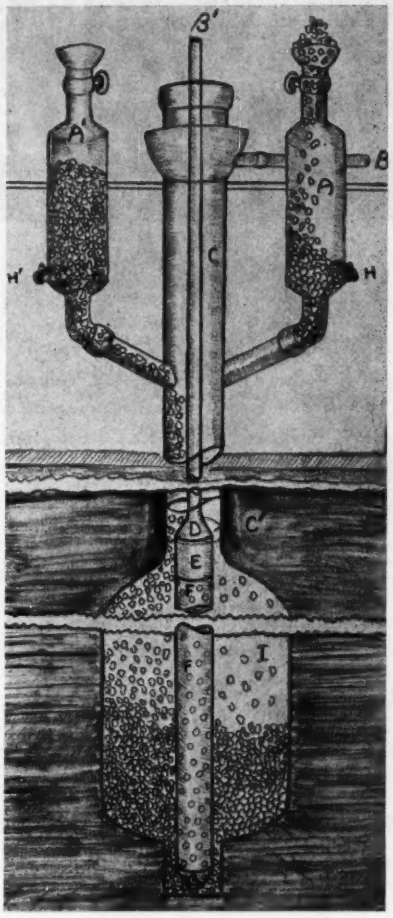
Improve Producing Characteristics By Gravel Packing Wall Scraped Hole

Operators in fields as widely separated as Wilmington in the Basin and Kern Front in the Valley are finding that they can increase their crude oil production rate, and greatly reduce their cleaning out costs and pumping troubles by completing their wells in such a way that their perforated or slotted liner rests in a reamed out hole packed with gravel in the productive zone.

Superficially, this method of improving well operation may be traced back thirty or more years and identified with the practice of water well drillers. Because of the well known reticence of oil men to air the advances they make in their methods, it would be difficult to ascertain how many years ago operators in the old Appalachian fields discovered that by "gravel packing", badly shot, many times "agitated", wells they could save them when they were nearing abandonment because of increasing caving trouble. The modern phase of "gravel packing," such as is being perfected in the California fields, was probably first attempted in the Oklahoma City field, and shortly afterwards in the Texas Panhandle.

The California operators, if results at this early date serve as a fair indication, have improved considerably the methods of the Oklahoma City and Texas Panhandle drillers. Application of new knowledge gained from the study of high sand ratio oil production and pressure gradient in relation to caving in the producing zone and in bridging liner openings is giving this development a sound scientific foundation, and there is absolute uniformity in the numerous reports showing improved producing characteristics for wells properly packed with gravel.

Throughout the producing zone the operators encounter varying pressures in the oil bearing strata. The different pay streaks may show pressures of 610 pounds, 680 pounds, 710 pounds, 790 pounds and 820 pounds, respectively. To avoid disruption of the unconsolidated sand structure in the high pressure streaks, considerable back pressure must be used, and the higher pressure streaks are not exploited to fullest advantage. Gravel packing, however, prevents the sanding out and collapse of the high pressure streaks so that lower back pressures are required.



Schematic diagram of well surface and underground preparations for gravel packing. A and A′ operate alternately feeding gravel into the hole. B is the mud-fluid inlet, and B′, the outlet. C is the waterstring; D, the adapter connecting tubing to perforated liner F, through blank liner E. On the surface equipment H and H′ are bleeders to withdraw mud-fluid.

There is still considerable to learn in this field, but such questions as have arisen are answered thus by one authoritative source: "Regarding the effect of paraffin on the gravel packing, we do not know what effect this would have on the gravel. However, we do know of fields where companies were troubled with heavy oil conditions which necessitated pulling the liners usually after 30 days. After gravel packing in this same field the well has been on the pump for over six months without being pulled once. Also on this same well the water content has been cut down from 10% to 1%. Further, the well has pumped the same amount of oil each day, where, before gravel packing, the output varied 50% from week to week. Some question has been raised as to what difficulties would be encountered when for any reason the liner would have to be removed from the gravel. Some state that the heavy oil would have a tendency to cement or bind the gravel together so that it will be hard to loosen it. Other operators claim, however, that it can be broken down easily with a bailer and bailed out of the hole."

In some of the early experiments in introducing gravel into the enlarged producing zone hole, improper arrangements caused the gravel to be distributed unfavorably, necessitating removal of the liner from the hole and bailing out the gravel. The improper design of gravel distributing attachments on the drill pipe or perforated liner was responsible for the only difficulty encountered in cleaning out the reamed zone, and these flaws in design have been corrected in a large measure, if not entirely. At least one major company is completing all wells in San Joaquin Valley with the space around the slotted or perforated liner filled with selected gravel made up principally of schistic material passing a quarter-inch mesh screen and laying upon a three-eighth-inch screen. Other operators have (or are preparing to) standardize on this practice both in the Valley and in Wilmington field.

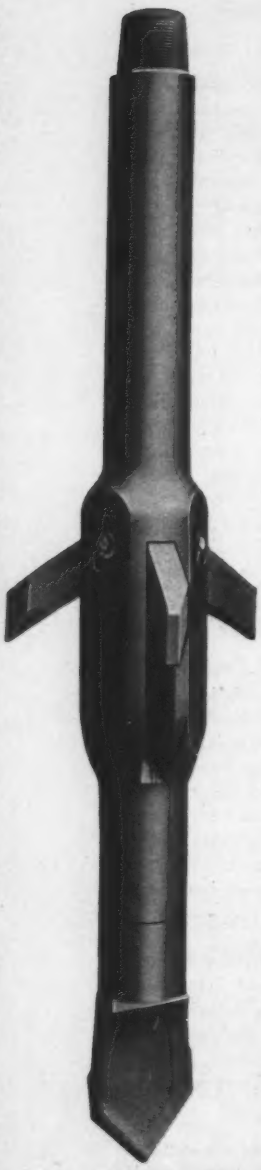
The procedure in exposing a larger surface in the productive zone is becoming fairly well standardized and offers few, if any, new bugs. The hole is reamed by stages until the desired diameter is reached. It is in setting the liner or oil string, as the case may be, and surrounding it with a five-inch or greater thickness of graded river gravel, that the engineers have had to devise ingenious apparatus and methods.

Preparation of the productive zone and placement of the liner and its gravel distributing attachments are showing less diversity of procedure and design among operators as experience brings a similarity of troubles and indicates methods of eliminating them.

The accompanying diagrams show clearly the preparation made from the well head to the liner or tubing in the productive zone, before, during and after

PROLONG PRODUCTION BY GRAVEL PACKING!

PLAY SAFE BY USING MacCLATCHIE 3-BLADE WALLSCRAPER



This MacClatchie Giant Wall Scraper will readily pass through 11¾" casing, yet has a safe cutting capacity of 30".

GRAVEL Packing is THE big item of the day for increasing well production, and it is highly significant that the MacClatchie 3-blade Wall Scraper is the overwhelming favorite for this process. Operators want its rugged strength and 3-blade construction to assure **Positive Safety** when making the large cuts that are required. They recognize its 3-blade efficiency, safety and smoothness!

The MacClatchie Scraper distributes the cutting load evenly around the entire circumference of the tool, reduces the load per cutter, smooths out rotational strains, and assures an even cylindrical hole for the gravel pack. By spreading the load over three husky cutters, it assures:—

More full gauge hole per run because there is less wear per cutter.

Smooth easy rotation that protects your drill strings from twist-off strains.

Perfectly cylindrical walls because there is no wobble, no vibration, and no tendency for the scraper to whip.

Triple Cutter Efficiency is just one of MacClatchie's performance features. Check these, too!

Tremendous Body Strength

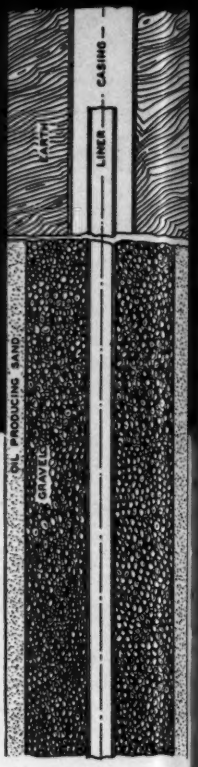
Positive Cutter Expansion and Contraction

Positive Notification at the Rig when Cutters are Expanded

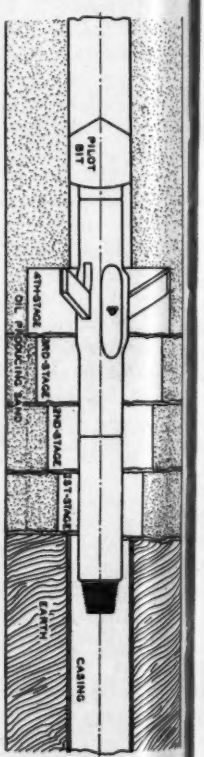
A Wide Range of Scraping Capacities

Double action circulation (circulation at each cutter as well as through the bit) . . . . only the MacClatchie Wall Scraper has all these efficiency features.

If you are interested in increasing production, reducing sucker rod and pump trouble, speeding up clean-out operations, and decreasing well cavings, write for detailed information on the new "Gravel Bed" Method of setting liners. MacClatchie engineers will gladly furnish you with valuable details on this subject.



Gravel Packing requires a wide diameter of hole through the producing zone, and MacClatchie 3-blade Scrapers give the necessary safety for this type of work.



In hard formations where hole is increased to a wide diameter, greater efficiency is achieved by expanding the hole in steps.

MacCLATCHIE MANUFACTURING CO.

COMPTON, CALIF. - HOUSTON, TEXAS

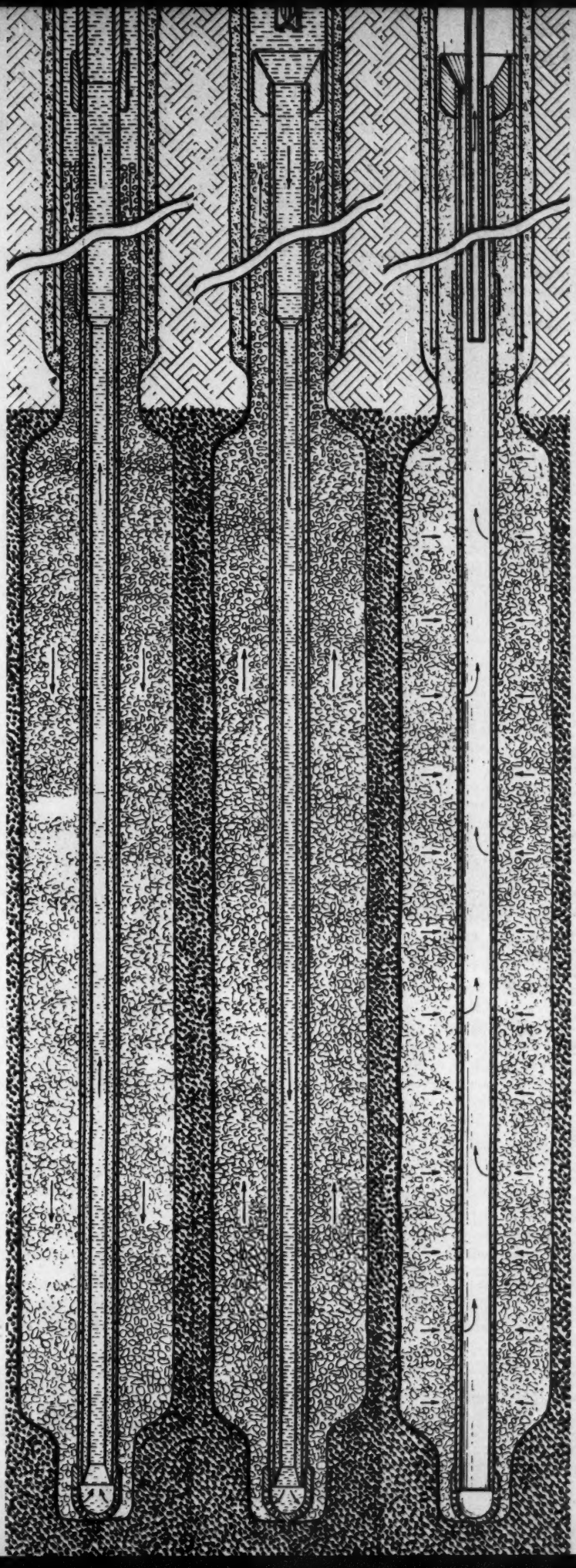
EXPORT: GEO. R. WOODS, 17 BATTERY PLACE, NEW YORK CITY

the gravel is placed in the enlarged productive strata. After the water string is set and the shut-off tested the hole in the productive zone is ready for underreaming. It has been the practice to run in a wall scraper on the drill stem and begin opening the blades below the water string shoe. The length of the hole to be reamed has ranged from 36 feet to 490 feet in the Kern Front and Wilmington wells completed by this method to date. After this operation the procedure differs somewhat among operators. One of the most successful completions of this type was made as follows:

A specially prepared perforated liner was attached to the tubing through a left hand adapter, and fitted on the bottom with a perforated plug. The liner was of the type carrying a cement sleeve on the inside. In preparing the liner, the Halliburton Oil Well Cementing Co. had first lined it with a special paper and then whirled it on one of their lathes in such a way that the paper tightened on the inside diameter as the cement was introduced. It has been found that this cement sleeve can be drilled out and the cuttings easily removed from the hole leaving the inside of the perforated liner clean. Already operators have used nearly 3,000 ft. of this cement-sleeved liner and progress is being made in utilizing the advantages gained by the cement sleeve in various types of liners and screen pipe.

The liner may hang a foot or so from the bottom of the hole, or rest on the bottom on a perforated shoe equipped with an anchoring vane. In another diagram is shown the derrick floor and cellar arrangements for lubricating the gravel into the hole outside the tubing and liner. Operating the two lubricators alternately, the driller put the gravel into the hole with the pump running continuously, thus speeding up the work and minimizing the possibility of bridging inherent in cessation of circulation of the gravel laden mud fluid. The gravel-free mud fluid returns to the surface through the perforated plug at the bottom of the liner and through the liner and tubing.

An important factor in the successful distribution of the gravel in the wall scraped hole is the type of mud fluid used. The mud fluid must be heavy enough to allow the gravel to settle



Setting of the cement sleeved perforated liner in the wall scraped hole, drilling out of the cement sleeve, and appearance of completed well on production, are shown, respectively, from left to right.

slowly in the hole, but not so viscuous as to promote clumping of the gravel and formation of bridges above the scraped hole. The use of a simple mixture of Aguagel and water appears to be favored among the operators gravel packing their wells.

The Aquagel-water mixture is compounded to a weight of 64 to 65 pounds, with a viscosity of 25 to 30 seconds in the Marsh funnel viscosimeter, using 500 c.c.s. in and out.

Some operators deposit only the amount of gravel calculated to fill the enlarged hole in the productive strata. Others add more gravel to take care of possible irregularities. When the required amount of gravel is in the hole, water is substituted for mud fluid and circulation continued until only clear water returns to the surface. The tubing adapter is now broken from the liner and a guide is screwed on the top of the liner. This guide facilitates the entry of the bit (of the same size as the inside diameter of the perforated liner). The cement sleeve in the liner is then carefully drilled out, the cuttings removed, and the gravel packing operation is completed.

Some operators run the liner on the drill bit stem, and not on the tubing through an adapter. In such cases the top of the perforated liner or the length of blank liner attached to the top of the perforated is protected by a thin metal shell or bonnet which deflects the gravel laden mud fluid. In nearly all cases, certainly in all which have offered the least difficulties, several special type expanding guides have been used to center the liner properly. These guides run in 10¾-inch to 11¾-inch casing and expand to the full 19-inch diameter of the usual reamed hole.

Ethyl Promotes H. W. Kaley

Harry W. Kaley has been appointed general sales manager of the Ethyl Gasoline Corp., it is announced by Earle W. Webb, president of the corporation. Mr. Kaley has been connected with the corporation for eleven years, serving as advertising manager and assistant sales manager. The appointment is effective Jan. 1.

New Armstrong-Johnson Offices

H. K. Armstrong and Harry R. Johnson, geological engineers, have moved their offices to 1002 Edison Bldg. The telephone is MIchigan 3769. Mr. Armstrong has been active in geological work in California since 1924, and has been associated with Mr. Johnson since 1929.

PIONEERED

6 YEARS AGO—HOLE ENLARGING

BAKER ROTARY WALL SCRAPER
(Same Body as Baker Wall Sampler)

BAKER WALL SCRAPERS have been used f Gravel Packing since this method was first intr duced six years or more ago as an important d velopment in completing and repairing water we —and subsequently in oil wells. In fact, in 1931, t Baker No. 8 Wall Scraper, which has an expansi of 36 inches, was developed especially for prepa ing water wells, and soon after oil wells, for Grav Packing, and has since proved the ideal tool f this purpose.

HERE ARE A FEW OF ITS MANY USE
in addition to gravel packing . . .

- You can bring in a well easily and in less time b scraping all rotary mud from the face of the o sand.
- Scrape a wide shoulder as the first step in bringi a crooked hole back to vertical.
- Enlarge the hole to set a larger size liner witho having to turn down any couplings.
- Bottleneck the hole above the shoe to insure water shut-off when cementing casing.
- Obtain a better bond of cement by wall scrapi away rotary mud and exposing original formatio
- When bottom water shut-off fails, wall scrape size of original hole, or larger (after drilling out o cement) . . . then recement.

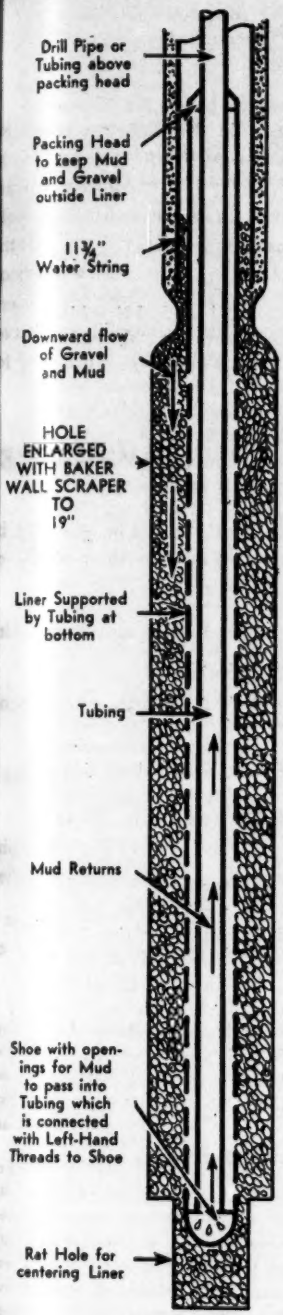
SAFETY FIRST . . . The Safety of the Baker Wall Scrap has been demonstrated in thousands of successful r made in oil fields throughout the world under the m difficult operating conditions. To our knowledge, no Bak Wall Scraper has ever failed to come safely out of the ho

AMAZING REAMING CAPACITY . . . One of the s standing features of this remarkable tool is its amaz reaming capacity. It has a reaming expansion range from 4 inches to 36 inches, by using only six Wall Scrap Bodies. Tremendous strength, combined with minimum ov all dimensions, make it possible to run the tool throu casing of comparatively small diameter, then to expa the blades and scrape the open hole below the casing fr a minimum to an amazing diameter.

For Complete Details Concerning the Design, Construction o Operation of the Baker Wall Scraper and Wall Sampler . . . See the BAKER SECTION of Your COMPOSITE CATALOG.

BAKER

FOR... GRAVEL PACKING


Drill Pipe or Tubing above packing head
Packing Head to keep Mud and Gravel outside Liner
11¾" Water String
Downward flow of Gravel and Mud
HOLE ENLARGED WITH BAKER WALL SCRAPER TO 19"
Liner Supported by Tubing at bottom
Tubing
Mud Returns
Shoe with openings for Mud to pass into Tubing which is connected with Left-Hand Threads to Shoe
Rat Hole for centering Liner

ONE OF THE most important developments in modern well completion and well repair work is the placing of a gravel packing around the liner and through the producing oil zone. Its application is particularly advantageous where formations are likely to produce sand with the oil, or where the walls of the hole have a tendency to cave.

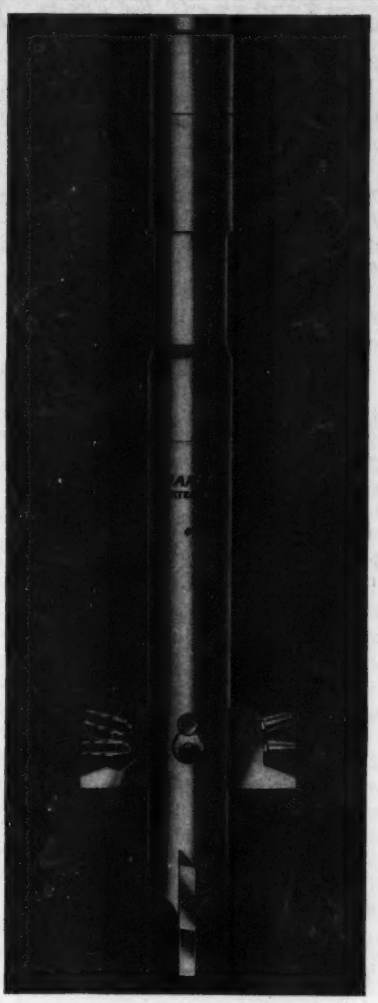
Gravel packing accomplishes two important results: First, it minimizes sanding up of the well, and, second, by the very fact that it *does* minimize sanding, it reduces well cleaning costs by reducing the number of cleanout jobs and the actual time spent on each.

To accomplish a gravel packing job it is necessary to enlarge the hole below the water string for a distance extending through the drainage area. To insure the hole being enlarged to a sufficient diameter to permit the necessary amount of gravel to be placed around the liner, it is important that the tool used to enlarge the hole be capable of sufficient expansion to make this enlargement.

Modern operators prefer a Baker Wall Scraper to do a gravel packing job because of its amazing expansion range, plus its operating safety and efficiency, (described on opposite page).

The accompanying illustration shows a typical gravel packing job. It will be noted that the hole below the water string has been enlarged with a Baker Wall Scraper to a diameter of 19 inches. The original hole was drilled to bottom to provide a rat hole for centering the slotted liner. In this operation the gravel was pumped down the hole in the annular space between the water string and the formation. The result is that the gravel accumulates in the enlarged diameter between the liner and the wall of the hole, and the circulating fluid, passes through the shoe at the bottom of the liner, returning to the surface through the tubing.

While the above is only one of several types of gravel packing jobs, it is typical of the part that a Baker Wall Scraper plays in accomplishing this important well completion and well repairing operation.



BAKER ROTARY WALL SAMPLER
(Same Body as Baker Wall Scraper)

BAKER ROTARY WALL SAMPLER

By the simple procedure of substituting Wall Sampler Blades, with core taking tubes, for the regular Wall Scraper Blades (done in only 4 minutes) it is possible to take actual cores from the side walls of any uncased hole (excepting perhaps where the formation is extremely hard) at any depth.

Thus the Baker Wall Sampler makes it possible to secure true samples of the formation from which cores were not taken, were lost or were incomplete. Each set of Wall Sampler Blades contains four small core-taking tubes approximately ½" inside diameter and 2" in length. These blades have no cutting edge but serve only to protect the tubes and to guide them into the formation.

BAKER OIL TOOLS, INC.

Telephone JEfferson 8211 – HUNTINGTON PARK, CALIFORNIA – 2959 E. Slauson Ave.
Telephone WAyside 2108 – HOUSTON PLANT AND OFFICE – 6023 Navigation Blvd.

MID-CONTINENT OFFICE AND WAREHOUSE:
Telephone 2-8083 – Tulsa, Oklahoma – 312 East Fourth Street

WEST TEXAS BRANCH OFFICE
Odessa, Texas – Telephone 217

EXPORT SALES OFFICE
Rm. 1914 – 19 Rector St., New York City
Tel. Digby 4-5515

ROCKY MOUNTAIN HEADQUARTERS
Tel. 2230 – Casper, Wyoming – Box 1464

ROTARY WALL SCRAPER
ROTARY WALL SAMPLER

California Oil Inventories Continue Rise In November

Oil continued to be added to storage in California during November, according to figures released by the American Petroleum Institute. The total addition was 917,914 bbls., bringing stocks to 124,289,318 bbls. at the close of the month. These figures reflect an improved statistical position for the industry as compared with the same period in 1936, showing a reduction in stocks of nearly 6,000,000 bbls.

While the bulk of the increase was registered by fuel oil residuum and non-gasoline bearing crude, which moved up 874,281 bbls., gasoline stocks advanced 306,621 bbls. This does not include gasoline at distributing and service stations. Gas oil and diesel oil stocks moved up 172,325 bbls. Gasoline bearing crude stocks declined 183,556 bbls., although production was at a slightly higher daily average level than in October.

With production of 701,988 bbls. daily, totaling 21,059,637 bbls. for November, indicated daily demand was 708,106 bbls., or 21,243,193 bbls. for the month. The Bureau anticipates that refiners will increase their finished gasoline stocks by at least 5,900,000 bbls during January, 1938, compared with an actual increase of 8,000,000 bbls. in January, 1937. The estimated increase in gasoline stocks for January, 1938, reflecting chiefly the rapid growth in heating oil demand, might be reduced by increasing the distillate yield. This might be effected by a further diversion of cracking stock to distillate production and by cracking residuals.

The U. S. Bureau of Mines places production of gasoline in California during January, 1938, at 6,770,000 bbls. The American Petroleum Institute November tabulations show the following additional changes in inventory position: gas oil and diesel oil, increased 172,325 bbls. in November; unblended natural gasoline, decreased 18,103 bbls.; naphtha distillates, decreased 155.811 bbls., and all other stocks, cut 77,843 bbls. Observers are of the opinion that the statistical position of the California crude oil producing and refining business is favorable, and that increases in stocks noted reflect sound operating policies.

More producers were completed in November than in the preceding month, otherwise activity in the state moved to a slightly lower level. There were 105 new rigs up in November, compared with 111 new rigs in October; wells drilling fell from 260 in October to 249 in November. Producers completed in November totaled 101, against 96 for the preceding month. Daily initial output showed a decline in November to 58,888 bbls., from the 62,767-bbl. figure for October. The number of active producers moved down to 13,362, from 13,370 in the preceding month. Wells abandoned during November numbered 20, against 31 for October. Producing wells abandoned during November totaled 44, against 25 in the preceding month.

Two new fields were entered in the books during November. These were the Canal field, located about 15 miles southwest of Bakersfield in Kern County, and about 4 miles northwest of Ten Section field; and the Rio Bravo field, located about 14 miles northwest of Bakersfield in Kern County, and about 3½ miles northwest of Greeley field. Production for the Canal field during November totaled 17,100 bbls., or a daily average of 570 bbls. Production for the Rio Bravo field during the month totaled 48,513 bbls., or a daily average of 1,617 bbls.

In none of the fields as there a noteworthy increase in production in November. Fair increases were recorded for Mount Poso, Round Mountain, West Coyote, and less importantly, on a percentage basis, in Ventura Avenue and Midway-Sunset fields. Declines are shown for Kern River, Mountain View, Capitan, El Segundo, and Montebello. None of the changes in the state fields is of proportion to signify anything.

Los Angeles Basin

Los Angeles Basin production from 20 fields totals 9,881,476 bbls. There were 52 new rigs up, 22 of them in the Wilmington field, with Long Beach, second, reporting 7, and Richfield, third, with 4. Listed in miscellaneous drilling in the district were 13 new rigs up. There were 126 active drilling wells in the Los Angeles Basin fields. Wilmington led with 28, and El Segundo followed with 19. Long Beach and Richfield tied in third place with 7 active drilling wells each. Dominguez reported 5.

In daily initial output Wilmington led by a wide margin with 14,517 bbls. El Segundo followed with 3707 bbls. East Coyote trailed with 597 bbls., and Richfield and Long Beach followed with figures slightly better than 300 bbls. Daily initial output for Torrance field was reported at 173 bbls.

The number of active producers in the Los Angeles Basin in November was 5385. Of the 33 wells abandoned in the district, 12 were drillers and 21 were producers.

San Joaquin Valley

Production in the 20 fields listed in San Joaquin Valley totaled 8,950,349 bbls. in November. There were 176 new wells drilling in this area. Kettleman North Dome led with 12, Midway-Sunset was second with 10, and North Belridge and Greeley followed with 9 and 8, respectively. There were 7 wells drilling in Mountain View, and 6 in Mount Poso and Round Mountain. There were 36 new rigs up. Nine of these new rigs were in the Round Mountain field, 7 were in Mount Poso, and 6 were in Midway-Sunset.

Producers completed in the Valley totaled 46. Of this number 10 were in the Midway-Sunset and Mount Poso fields each, while 7 were in the Round Mountain field. No producers were completed in the North Belridge, Coalinga, Ten Section, Wheeler Ridge, and the Kettleman Middle and North Dome fields.

Daily initial output for new wells in San Joaquin Valley were 27,706 bbls., giving it a good margin over the Los Angeles Basin's 19,617 bbls. initial daily production, and the Coastal District's 11 565 bbls. initial daily production. The number of active producing wells in the Valley totaled 6595 in November. Drilling wells abandoned numbered 6, and producers abandoned were 21.

Coastal District

In the Coastal District daily production totaled 2,227,812 bbls. in November. There were 16 new rigs up in November. Wells drilling numbered 42, and the producers completed, 18. Most of the activitv was in the Santa Barbara field, where there were 11 new rigs and 19 wells drilling, and in Ventura Newhall, where there were 2 new rigs and 14 wells drilling. There were 12 producers completed in the Santa Barbara field, and these had an initial daily production of 9396 bbls. There were 3 producers completed in the Ventura field with a daily initial production of 1833 bbls. Active producers numbered 1352. There were 3 abandonments in the area.

PRODUCTION :-: DEVELOPMENT

(Figures of Production and Stocks are in barrels of 42 Gals.)

Group No. 1	Total Production November	—DAILY AVERAGE— Nov., 1937	Oct., 1937	Nov., 1936
Belridge—North	500,204	16,673	16,648	13,533
Belridge—South	44,773	1,492	1,779	1,869
*Canal	17,100	570	.....	.....
Coalinga	470,647	15,688	15,815	15,732
Edison	118,431	3,948	3,943	5,683
Elk Hills	330,038	11,001	10,963	8,270
Fruitvale	240,705	8,024	8,535	8,941
Greeley	84,549	2,818	2,215	.....
Kern River	448,399	14,947	15,381	14,525
Kettleman Middle Dome	2,884	96	101	268
Kettleman North Dome	2,450,654	81,689	81,195	77,607
Lost Hills	126,431	4,214	4,145	3,613
McKittrick	135,181	4,506	4,512	1,764
Midway-Sunset	2,223,436	74,115	73,465	61,979
Mountain View	480,654	16,022	17,262	21,999
Mount Poso	630,305	21,010	19,749	18,022
**Rio Bravo	48,513	1,617	.....	.....
Round Mountain	485,723	16,191	15,166	11,551
Ten Section	102,337	3,411	3,031	1,181
Wheeler Ridge	9,385	313	312	343
Group No. 2				
Capitan	91,175	3,039	2,919	1,796
Elwood	237,944	7,931	8,315	11,666
Rincon	112,690	3,756	3,599	2,123
San Miguelito	104,161	3,472	3,570	2,214
Santa Barbara	16,711	557	574	906
Santa Maria	413,920	13,797	13,764	5,325
Summerland	1,010	34	34	36
Ventura Avenue	1,092,973	36,432	34,706	34,309
Ventura-Newhall	155,428	5,181	5,107	4,988
Watsonville	1,800	60	60	60
Group No. 3				
Brea-Olinda	184,426	6,148	6,151	8,050
Coyote—East	130,338	4,345	3,955	2,852
Coyote—West	286,227	9,541	7,056	7,847
Domingues	885,856	29,529	29,297	25,317
El Segundo	573,159	19,105	21,818	377
Huntington Beach	1,080,553	36,018	36,275	35,102
Inglewood	483,108	16,104	16,137	12,476
Lawndale	2,669	89	89	105
Long Beach	1,735,988	57,866	57,788	65,416
Los Angeles-Salt Lake	17,161	572	574	817
Montebello	223,286	7,443	7,871	9,110
Playa Del Rey	232,088	7,736	7,789	10,986
Potrero	12,540	418	389	290
Richfield	282,725	9,424	9,015	7,096
Rosecrans	136,582	4,553	4,218	2,231
Santa Fe Springs	1,247,238	41,575	41,365	45,186
Seal Beach	279,933	9,331	9,419	8,759
Torrance	231,950	7,732	7,223	8,827
Whittier	27,228	908	888	930
Wilmington	1,828,421	60,947	60,299	.....
Total	21,059,637	701,988	694,481	582,077
October	21,528,921	694,481		
Increase †Decrease	469,284†	7,507		

*CANAL OIL FIELD—located about 15 miles southwest of Bakersfield in Kern County and about 4 miles northwest of Ten Section Oil Field.

**RIO BRAVO OIL FIELD—located about 14 miles northwest of Bakersfield in Kern County and about 3½ miles northwest of Greeley Field.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Nov. 30, 1937	Oct. 31, 1937	November Changes	Nov. 30, 1936
1. Fuel Oil Residuum and Non-Gasoline-Bearing Crude	65,376,608	64,502,327	+ 874,281	64,638,434
2. Gas Oil and Diesel Oil	7,438,542	7,266,217	+ 172,325	8,990,339
3. Gasoline-Bearing Crude	30,078,424	30,261,980	− 183,556	33,680,672
4. Unblended Nat. Gas	2,023,555	2,041,658	− 18,103	1,881,460
5. Gasoline (not including distributing and service stations)	11,868,246	11,561,625	+ 306,621	11,142,817
6. Naphtha Distillates	1,536,420[1]	1,692,231[1]	− 155,811	1,788,556[1]
7. All Other Stocks	5,967,523[2]	6,045,366[2]	− 77,843	8,089,027[2]
TOTAL	124,289,318	123,371,404	+ 917,914	130,211,305
[1]Estimated amount of unfinished gasoline contained in item 6	1,320,028	1,417,212		1,462,241
[2]Coke included in item 7	24,884	33,241		261,448

	New Rigs Up	Active Drilling	Producers Completed	Daily Initial Output	Active Producing	ABANDONED WELLS Drillers	Producers
Group No. 1							
Belridge—North	1	9	1	3,290	50	....	....
Belridge—South	..	....	....	....	127	....	....
Canal	1	1	1	2,267	1	....	....
Coalinga	..	2	....	....	873	....	....
Edison	..	....	2	180	90	1	....
Elk Hills	1	1	1	324	167	1	3
Fruitvale	..	2	3	1,000	157	....	1
Greeley	3	8	3	8,912	10	1	....
Kern River	..	4	2	220	1,342	1	1
Kettleman Middle Dome	..	1	....	....	3	....	....
Kettleman North Dome	2	12	....	....	177	....	....
Lost Hills	..	2	2	343	207	1	....
McKittrick	..	1	1	25	212	....	....
Midway-Sunset	6	10	10	1,683	2,520	....	16
Mountain View	1	7	2	1,140	193	....	....
Mount Poso	7	6	10	2,395	275	....	....
Rio Bravo	2	....	1	2,550	1	....	....
Round Mountain	9	6	7	3,377	157	1	....
Ten Section	3	4	....	....	7	....	....
Wheeler Ridge	..	....	....	....	26	....	....
Group No. 2							
Capitan	..	....	....	....	39	....	....
Elwood	..	....	....	....	83	....	....
Rincon	2	1	....	....	35	....	1
San Miguelito	..	2	1	165	14	1	....
Santa Barbara	..	....	....	....	37	....	1
Santa Barbara	11	19	12	9,396	277	....	....
Summerland	..	....	....	....	19	....	....
Ventura	1	6	3	1,833	260	....	....
Ventura Newhall	2	14	2	171	581	....	....
Watsonville	..	....	....	....	7	....	....
Group No. 3							
Brea-Olinda	..	1	....	....	368	....	....
Coyote—East	..	....	1	597	84	1	....
Coyote—West	..	1	....	....	34	1	....
Domingues	2	5	....	....	159	....	....
El Segundo	2	18	6	3,707	41	....	1
Huntington Beach	1	....	....	....	577	....	2
Inglewood	..	1	....	....	198	....	6
Lawndale	..	....	....	....	6	....	....
Long Beach	7	7	3	303	1,244	....	4
Los Angeles-Salt Lake	..	....	....	....	113	....	....
Montebello	..	1	....	....	201	....	....
Playa Del Rey	..	....	....	....	201	....	2
Potrero	..	1	....	....	10	....	....
Richfield	4	7	2	320	283	....	....
Rosecrans	1	3	....	....	82	1	....
Santa Fe Springs	..	2	....	....	660	....	5
Seal Beach	..	1	....	....	111	....	....
Torrance	..	....	2	173	535	....	1
Whittier	..	1	....	....	155	....	....
Wilmington	22	28	22	14,517	323	....	....
Miscellaneous Drilling	13	51	....	....	....	9	....
Group No. 4—Gas Fields							
Buena Vista Lake	..	....	....	....	5	....	....
Buttonwillow	..	....	....	....	....	....	....
Chowchilla	..	....	....	....	....	....	....
Delano	..	....	....	....	1	....	....
Dudley Ridge	..	....	....	....	....	1	....
Goleta	..	....	....	....	1	....	....
McDonald Island	..	1	....	....	4	....	....
Rio Vista	1	1	1	Gas	6	....	....
Semi-Tropic	..	1	....	....	7	....	....
Tracy	..	....	....	....	6	....	....
November	105	240	101	58,888	13,362	20	44
October	111	260	96	62,767	13,370	31	25
Decrease	6	11	5†	3,879	8	11	19†
†Increase.							

Bureau Demands Estimates Show Continued Seasonal Improvements

Crude oil production quota for the state during January has been set at 678,300 bbls. daily by the Central Committee of California Oil Producers, following its usual practice of accepting the U. S. Bureau of Mines' output recommendations. While the January figure represents a decline of 1100 bbls. daily from the December figure, an increase is shown over the January, 1937, estimates.

The daily average supply of domestic crude oil estimated by the Bureau of Mines to meet the demand in January, 1938, is 3,406,800 bbls., or 84,500 bbls. less than the estimate for December, 1937. However, it is 227,200 bbls. (7%) higher than the actual daily production for January, 1937, and 6% higher than the actual demand for domestic crude for that month.

Crude oil production during the five weeks Oct. 30 to Dec. 4 averaged about 3,497,000 bbls. daily. During this period crude oil stocks declined 4,106,000 bbls. net, including an increase of 414,000 bbls. in foreign stocks, which would make a total decline of 4,520,000 bbls. in domestic grades. The addition of this amount to crude oil production gives an indicated demand for domestic crude during this period of 3,626,000 bbls. daily. However, at least 100,000 bbls. of this apparent daily demand represents the crude runs equivalent to a gasoline stock increase in November, 1937, that was about 1,400,000 bbls. greater than that for November, 1936.

Domestic Demand

The estimate for domestic motor fuel demand for January, 1938, is 36,500,000 bbls., or 8% higher than the apparent demand for January, 1937. The present forecast represents an increase of about 5% over the estimated normal demand for January, 1937.

Stocks of finished and unfinished gasoline amounted to 68,037,000 bbls. on Oct. 31, 1937. According to statistics of the American Petroleum Institute, gasoline sfocks increased about 2,500,000 bbls. during November, bringing them to approximately 70,500,000 bbls. on Nov. 30, or about 11,700,000 bbls. higher than they were on Nov. 30, 1936, representing an increase from 44 days' supply to 50 days' supply. Even though such stocks may be excessive the Bureau anticipates that refiners will increase their finished gasoline stocks by at least 5,900,000 bbls. during January, 1938, compared with an actual increase of 8,000,000 bbls. in January, 1937. The Bureau wishes to emphasize that it is not recommending the above increase in stocks but is merely forecasting what may occur in the light of present conditions and past experience.

Benzol and "direct" sales and losses of natural gasoline have been estimated as 800,000 bbls., making the estimated production of gasoline 45,400,000 bbls., or 1,465,000 bbls. daily.

Natural gasoline consumption at refineries in December is estimated as 6.8% of the total gasoline required, or 3,090,000 bbls. The yield of straight-run and cracked gasoline is estimated as 43.0%, or slightly lower than the yield for January, 1937. Application of this yield to the estimated straight-run and cracked gasoline production of 42,310,0000 bbls. gives refinery crude-oil requirements as 98,310,000 bbls. daily.

American Meter Co. Officials

Mr. F. H. Payne, President of American Meter Company, at a recent board meeting, was elected also to be treasurer of the corporation, thereby filling the vacancy created in that office by the death of Mr. Donald McDonald.

F. H. Payne John Van Norden

A few of the guests who attended the recent open house party given by Curley Working and Pop Ellis, of the Service Oilfield Supply Co.

Wildcat Hi-Jinks Record Festivity

Attendance exceeded 1500 at the Christmas Hi-Jinks banquet of the California Oil & Gas Association, making the festive celebration one of the largest, if not the largest, in the history of the industry. The banquet committee reports that more than 100 who sought a place in the capacious Biltmore Bowl were turned away for lack of further accommodations.

The story which the Wildcats presented in the form of an ironical play comparing conditions of 1937 with those of 1900, was filled with sharp lampoons directed, in the amiable fashion of oil men, at well known figures and organizations in the industry. However, the principal function of the presentation was it sdisclosure of how importantly the tax collector has gained as a threat to profitable oil company operations.

Taking part in the presentation were the following: F. E. Foster, of the association; Mark Woolery, of Belyea Truck Co.; Dick Clark, of National Supply Co.; Neil Needham, of General Petroleum Corp.; Bill Geis, of Super Asphalt Products Co.; Art Stewart, of Union Oil Co.; Dale Russell, Youngstown Sheet and Tube Co.; Ward Blodget, Bell and Loffland; Frank Champion, Byron Jackson; Art Wallace, Ohio Oil Co.; Charles Wagner, Wagner-Moorhouse, Inc.; Frank Morgan, Richfield Oil Corp.; Dave Smith, Sovereign Oil Corp.; Dana Hogan, Hogan Petroleum Co.; Torrey Webb, The Texas Co.; Bill Pemberton, state oil umpire; Joe Dunn, National Supply Co.

Dave Smith has charge of arrangements. Dale Russell was director of properties, and Loren Hillman was stage director.

The program included a number of interesting professional acts.

Field Development

Los Angeles Basin

Eight Wells In Sand In L. B. Harbor Area

That the Long Beach Harbor area of the Wilmington field will soon become a major factor in the State production picture is rapidly becoming obvious as eight wells are now in the sand in scattered location.

Coring Below 2300 Ft.

In the "Hot Spot" near the entrance channel, General Petroleum Corp. Harbor Comm. Nos. 1 and 6, Bankline Oil Co. U. P. No. 2 and Superior Oil Co. 1960 Comm. No. 1 all cored the oil sand a little below 2300 ft. Indicating a possible structural trend, G. P. cemented 11¾-in. casing at 2338 ft. in Harbor Comm. No. 1, and at 2430 ft. in No. 6, 800 ft. east, while between the two, Superior set at 2330 ft. In the same group, Bankline U. P. No. 2 is coring the upper stringers of oil sand at 2350 ft.

Tap Ranger

Near the corner of First and Mitchell, Allied Petroleum No. 23 cored the top of what is probably the Ranger sand at 2565 ft. and with bottom at 2715 ft. cemented the water string where it stuck at 2450 ft.

West of the Proctor & Gamble plant on Seventh St., General Petroleum's S. P. No. 2 is coring shale and oil sand below 2960 ft. after setting casing at 2635 ft.

Core Pay Below 3010

At the corner of Seventh and Pico, Channel Comm. No. 3 has the sand at 2993 ft. and is running 8⅝-in. casing, while the company's Blinn No. 1, located on a southerly extension of Santa Fe Ave., is coring oil sand below 3010 ft. after setting the water string at 2955 ft. Following the casing program used in the developed portion of the field, General Petroleum is using larger pipe in wells which expect to find the Lower Terminal and Ford zones productive. It is thought that these zones, which are found at 4000 ft. and 5000 ft. in the Ford plant area will be present in the section lying south of Water St. and west of Santa Clara Ave.

Observe Structure Closely

The remainder of the field, which apparently will extend east of the Flood Control channel and as far north as Anaheim St., will probably be similar to the comparable area in Wilmington, with the Upper Terminal and Ranger horizons contributing most of the production. Although the "digging" is very soft, operators are taking plenty of time and treating each well as a wildcat in order to feel out the structure as carefully as possible. Soon to reach the oil sand are Caminol Co., Ltd., No. 1-6 and Richfield Oil Co. Guernsey No. 1, both located in the central area and approaching 2000 ft. in depth. On one of the choice leases of the field, the Craig shipyard, Hancock Oil Co. is getting under way with its first harbor well.

Brea-Olinda Deep Test Proves Disappointment

Unsuccessful in discovering a new deep sand, Shell Oil Co. has plugged Columbia 4-1 in the Brea-Olinda field from 8021 ft. to 5000 ft. where a swabbing test now in progress shows only water and a small amount of oil enters the hole.

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Los Angeles County					
Bellflower	Clayton, G. L. Scott	1	32, 3-12	6240	Prep. to resume dlg.
Brea	Pressel, Perry, Tull	1	30, 2-9	4535	Bailing mud
Castaic	Royal Land Corp.	1	8, 4-17	240	Drilling
Gardena	Texas Co., Gardena	5-1	30, 3-13	5365	Drilling
Monterey Park	Monte Cristo,-Garvey	1	27, 1-2	2375	Reaming
Mint Canyon	Christien, J. P.	1	7, 4-14		Rig
	Mint Canyon	1	33, 5-14	750	Drilling
Newhall	West Coast Dev. Co.	1	27, 4-16	1300	Drilling
	Barnsdall O. Co., R.S.F.	2	26, 4-17	6367	Drilling in oil sand
Palmdale	Antelope Valley Pet.	1	17, 6-12	50	Tech. Spud.
Palos Verdes	Gene McLaren	1	27, 4-14	3992	Idle
	Hunter, Devlin et al	1	17, 4-14	5500	Plug 4500 Testing
	Rolling Hills Pet.	1	27, 4-14	2200	Drilling
Pico	British Am. O. P. Co.	1	12, 2-12	3990	Idle
Pico Canyon	Burt, A. G.	1	36, 4-17	2550	Fishing bit
Puente	Julien, C. A., Koch	1	5, 2-9	2950	Idle
Towsley Canyon	Towsley Canyon O. Co.	1	8, 3-16	4100	Prep. to test
W. Long Beach	Alford Dev. Co., C.Y.	1	22, 4-13	6100	Drilling
W. Coyote	Severns Drilling Co.	1	24, 3-11	7272	Redrilling 4100
Orange County					
Anaheim	Shell O. Co., Harbeson	1	9, 4-10	8606	Idle
San Bernardino					
Chino	Selegna Drlg. & Prod. Co.	1	12, 3-8	1350	Drilling

Willis-1 Producer in New L. B. Extension

Last well to be completed in the new Long Beach extension area is John Abrams & Associates Willis No. 1 located 400 ft. south of the discovery well, Hildon's Amebco No. 1. Failing to get a water shutoff on the 8⅝-in. casing cemented at 4193 ft., a 6⅝-in. liner was landed on bottom at 4249 ft. and cemented through the top perforations at 4225 ft. Placed on the pump with no preliminary swabbing, the production, not yet entirely cleaned up, is going to the sump.

Flowing through two 1½-in. beans, Union's last completion, Oil Operators No. 2 is now gauging 965 bbls. daily of 24 gravity clean oil with gas production 1350 cu. ft. Derrick has been skidded to Oil Operators No. 4, 25 ft. south from No. 3.

Hildon Oil Co. is now active with two projects, Amebco No. 3, which is drilling below 3100 ft., and No. 1-A, which is building rig, both on the Los Cerritos side of the railroad tracks.

Amebco No. 3 will be offset by Bixby No. 4 of the Richfield Oil Co.

Shell Plugs Harbeson 1 At 1100 Ft. At Anaheim

Failing to uncover anything commercial to 8608 ft., Shell Oil Co. has plugged Harbeson No. 1, its second recent test of the Anaheim area, to 1100 ft. Although streaks of oil sand and gray sand cored from 6875 to 7600 ft. appeared to be the best yet found in this vicinity, formation tests recovered only water with spots of oil. Mathis No. 1, the company's first Anaheim venture, was abandoned at 4954 ft., when drill pipe tests indicated showings at 4250 ft. were wet.

C.C.M.O. Adds Well In Torrance Light Oil Pay

Completing another well in the new high gravity zone, C.C.M.O. Co. brought in Torrance No. 33 from 4925 ft. flowing 27 gravity clean oil at the rate of 100 bbls. per day. A 6⅝-in. liner was landed on bottom, and cemented at 4837 ft. at the top of the perforations. C.C.M.O.'s success has encouraged several of the independent operators in various sections of the field to try for the same zone.

Montebello Test Makes 1400 Bbls.

Eyes of all Montebello operators are now on St. Helens' deep west end well, Monterey No. 20, now on its second production test. Deepening from the upper horizon, a sand similar to the Nutt zone of the easterly extension was cored from 6220 to 6353 ft. With this interval open, the well flowed at the rate of 2500 bbls. a day gross cutting 50%. Suspecting a bad shoe job as the water test had been inconclusive, the flow was killed and the 8⅝-in. casing recemented at 6221 ft.

Recompleted January 2, the first full day's gauge was 1400 bbls. of 38 gravity oil cutting 2.05% with 9,000,000 cu. ft. of gas through a ⅞-in. bean. The tremendous gas volume built up 600 lbs. flow pressure and 1350 lbs. on the casing head.

Steep Dips Encountered In Monterey Park Garvey 1

After encountering steep dips to 2375 ft., Monte Cristo Petroleum is reaming to straighten the hole before continuing with Garvey No. 1 at Monterey Park.

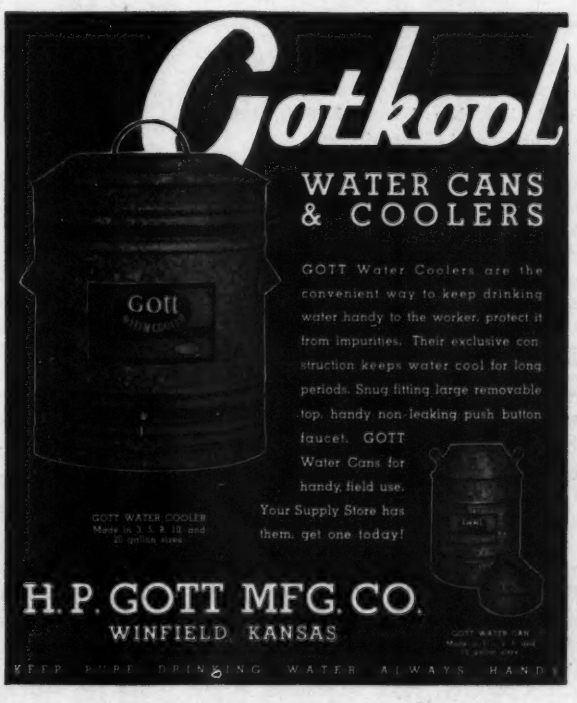
GEOANALYZER

- Geoanalyzer—The first instrument to read the last foot of the hole.
- Geoanalyzer—Introduced and perfected automatic recording.
- Geoanalyzer—Employs definitely superior circuits and measures quantities that are absolutely accurate.
- Geoanalyzer—Overcomes disturbances introduced by earth currents by using High Frequency Alternating Current.

From its inception Geoanalyzer has led in new and better developments. It is the object of continued study and has been constantly improved.

518 E. 19th St., Bakersfield, Calif.—Phone 1420

Geoanalyzer Corporation
2535 AMERICAN AVE PHONE 420 96
GEOANALYZER CORPORATION
LONG BEACH, CALIFORNIA


Gotkool
WATER CANS & COOLERS
GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today!
Gott
H. P. GOTT MFG. CO.
WINFIELD KANSAS
KEEP PURE DRINKING WATER ALWAYS HANDY

Brookline Town Lot Test Is Producer

Completing its important northwest extension well, Webb Comm. No. 1 at Avalon and Robidoux, the Brookline Oil Co. obtained the best recent production in the Wilmington townlot area. Bottomed at 3685 ft., the water string was cemented at 2970 ft. and the liner spot perforated from 3010 to 3085 ft., 3125 to 3245 ft. and 3324 to 3685 ft. The well was brought in Christmas day with initial production estimated at 500 bbls. per day, cutting 20%. Now cleaned up to less than 5%, the well is gauging 450 bbls. through a 30/-64-in. bean.

Other Good Completions

Two blocks south, at the corner of Dennie and Avalon, Krieger Oil Co. brought in its first well from 3655 ft. flowing 300 bbls. of 16.5 gravity oil cutting 5%, and on Banning St. south of "L", Royalty Service completed Flemming No. 1 flowing 250 bbls. cutting 17%.

Similar to other deep townlot tests, Selegna's No. 10 at the corner of "G" and McFarland appears to be good for only 100 bbls. a day of 30 gravity clean oil. Drilled originally to 5940 ft., the hole was plugged to 5710 ft. and completed in the interval 5650-5710 ft. Even a small quantity of this grade of crude would be useful in blending with the heavier oils produced in the upper sands.

Between "E" and "F" on Broad, Nielson, Dunwoody & Associates brought in Buckley No. 4 from 3678 ft. flowing 175 bbls. of 14.5 gravity oil.

No big completions were made by the larger operators, Bankline bringing in Joint Comm. Nos. 1 and 2 for 170 and 285 bbls. and Union Pacific adding five wells ranging from 100 to 325 bbls., all from the upper zone.

Long Beach Compromise Urged By Governor

Proposal that the state and the city of Long Beach effect a compromise to govern drilling of tidelands was made in Long Beach on December 29 by Governor Merriam. He made the suggestion to adjust a controversy which has developed since it was disclosed that Long Beach harbor lands are probable oil territory. The Governor suggested that if satisfactory terms could be reached between the city and the state, legislative action probably could be adopted at the coming special session of the Legislature to confirm them.

Stern No. 5 Is Pumper In East Coyote Extension

In the west extension of the East Coyote field, Bartholomae Oil Corp. overcame water trouble which delayed completion of Stern No. 5 and the well is now pumping 75 bbls. a day of 25 gravity clean oil. The 8⅝-in. water string is cemented at 4153 ft. and bottom has been plugged from 4708 to 4450 ft.

Add 850 Bbls. To El Segundo Output

With the subsiding of Richfield's wild Santa Fe B-1 the day before Christmas, El Segundo returned to its routine development work and completed two more wells. Government Refining & Gasoline Co. obtained 325 bbls. of daily production with 0.5% cut from Coppinger-Wallace No. 2 which was finished in the schist at 7126 ft. In its offset to Santa Fe B-1, Ohio Oil Co. brought in a flow of 550 bbls., 22.3 gravity cutting 0.3%. Gough No. 10 was drilled to 7359 ft., encountering the conglomerate in the first core at 7255 ft. and the top of the schist at 7267 ft.

Across the highway to the west, Howard Oil Co. is coring for the oil zone at 7300 ft. and in the center of the townlot area Lakeside Oil Co. is preparing to complete Elsie 10-1 after picking up 25 ft. of conglomerate to the top of the schist at 7125 ft. and bottoming at 7400 ft.

Seek Western Limits

Bent on determining the western extent of production, Wilshire Oil Co. is preparing to drill on El Segundo Construction Co. property at the corner of Holly and Sheldon. Richfield has two wells now drilling in the schist, McCray 2 at 7354 ft. and Republic No. 1 at 7358 ft. No conglomerate was found in the McCray well, the basement being located at 7030 ft. while Republic No. 1, being located in the old part of the field, encountered a 17-ft. body over the schist, which was topped at 7284 ft.

Deepened Test Shows Oil In Dominguez S. E. Flank

Believing that production may yet be obtained from the old United Oil Co. lease on the southeast flank of the Domingueb field, Selbar Oil Co. has redrilled well No. 4 to 4390 ft. and set 5¾-in. casing at 4340 ft. Cores taken from the interval to be tested appear well saturated and prospects for at least a small well appear good.

Barnsdall Rancho 2 In Oil Sand at 6283

Finally overcoming a difficult sidetracking job, Barnsdall has at last drilled Rancho San Francisco No. 2 into the oil sand at 6283 ft. Although stringers of sand were noted from 6100 ft., a well saturated body has been almost continuous in the last 84 ft. to bottom at 6367 ft. and an electrical log of the hole is now being made. No. 2 is located approximately 1400 ft. southeast of the discovery well, both being situated in sec. 26, 4-17 and about six miles west of Newhall.

Completed last April, the No. 1 well has been on production continuously, averaging 150 bbls. a day of 34 gravity oil cutting 2.0%. It is bottomed at 6472 ft. with production from the last 325 ft. of hole.

Union Coring Below 9800 In Chapman 29, Richfield

Continuing its deep test program in Basin fields, Union Oil Co. is coring below 9800 ft. in Chapman No. 29 at Richfield. Although no official statements are made by the company, it is believed that no important oil sand bodies have been found below present producing horizons. On the Kraemer Two lease, Standard Oil is spudding well No. 26. Congress Oil Co. is preparing to deepen a 2700-ft. well drilled by the Principal Oil Co.

Kettleman Middle Test Proves Disappointment

The series of tests now being made in Temblor Oil Co.'s Kettleman Middle Dome well, Bunting No. 1, have been a severe disappointment both to the company and to close observers of the area. With hole bottomed at 9140 ft., 210 ft. of 3-in. liner was landed and the fluid, watery, gas-cut mud, was swabbed to 6000 ft. In an effort to locate and shut off the source of the water, the lower hole is being checked with a water witch.

Standard KCL 17-1 Failure In Sec. 9

Standard's KCL 17-1 in sec. 9, and the most northeasterly project, to 8150 ft., has encountered no oil sand and probably marks the limit of extension in that direction. A sand body similar in character to that productive in the field was cored between 7800 and 7900 ft. but was entirely devoid of oil showings.

San Joaquin Valley

Five Good Producers In Round Mountain

Round Mountain continues to be one of the most active districts in the San Joaquin Valley with California Western, Marcan, Shell and D. G. Vedder making good completions.

In sec. 13, 28-28 California Western brought in Kernco No. 4 from 1929 ft. with production estimated at 300 bbls. and is preparing to drill No. 5. Marcan Oil Co. in sec. 12, 28-28 has completed well No. 2 from 2030 ft. as a good pumper with no gauge yet available and has spudded well No. 3 in the same section, Dwight Vedder obtained 400 bbls. in Bell No. 3 and is preparing to put No. 4 on the pump from slightly below 1800 ft. Also operating in section 12, H. A. McDonald has set 8⅝-in. at 1950 ft. preparatory to completing Larkin No. 2, while Bell No. 1, a recent addition, is on the beam with a daily yield of 300 bbls. of clean oil. Though official gauges are not yet available, Shell's Caldwell No. 19 in sec. 7, 28-29 has been brought in as another good pumper.

Union And Superior At 6000 Ft. In Rio Bravo

In the world's deepest oil field, Rio Bravo, two wells have made the first half of their hole, both Union Kernco No. 2 and Superior Wagner No. 1 having passed the 6000-ft. level. Beside the drilling wells, General Petroleum has two locations, Getty has a rig and Superior Oil is preparing to spud Geissinger No. 1, all in sec. 35, 28-25.

Arvin Activity At Low Point

Activity in the Arvin area has now slowed to a walk with General Petroleum's Pauley No. 1 yet idle at 500 ft. and the discovery well, Houchin No. 1 in sec. 27, 31-29, rigging to pump after demonstrating its ability to flow 150 bbls. a day of 31 gravity clean oil. From the interval 7300-7350 ft. After a short period of idleness, Petrex, Inc., has resumed operations in well No. 1 in sec. 32, 31-30 and will set a protection string of casing, present bottom being at 2110 ft.

Nearing 10,000 Ft. In E. Coalinga Wildcat

In its East Coalinga wildcat, S. P. L. No. 1, sec. 31, 18-17, Pure Oil Co. is fast approaching 10,000 ft. in depth with 2000 ft. of 13⅜-in. surface casing the only pipe in the hole. Although gas has been noted at several points, no oil showings of importance have been reported by the company.

Trouble Delays Tests of Standard Discovery

The production test scheduled for Standard Oil Co. KCL 15-1, two miles east of Ten Section in sec 27, 30-26, has been delayed by the 9-in. casing freezing at 6313 ft. and the necessity to recondition the hole and set 7-in. over the top of the oil sand at 8037 ft. A formation test to bottom at 8070 ft. indicated that production may be expected similar to that found at Greeley, Ten Section and Canal fields.

Canal Area

In the Canal area, Shell Oil Co. KCL A-72, sec. 14, 30-26 is nearing the oil sand at 7980 ft.

Ohio's second well, KCL E-4 is now drilling below 6000 ft., while the discovery well, E-3 is flowing 460 bbls. a day of 39 gravity.

Superior Sec. 3, 30-26 Test Is Abandoned

South of the Greeley field in sec. 3, 30-26, Superior Oil Co. has abandoned KCL No. 10 at 8403 ft. No oil sands were found in this well which was located only a short distance south and west of No. 9.

Now idle after producing only salt water on a pump test, No. 9 created a sensation three months ago when with bottom at 7605 ft. a formation tester was set at 7545 ft. and a flow estimated at 2000 bbls. daily was obtained. Subsequently the hole was carried to 7870 ft. where a blank string of 7-in. casing was cemented and gun perforated from 7558 to 7580 ft. When swabbed, the well flowed 415 bbls. of 32 gravity oil cutting 4%, dying abruptly two days later. All efforts since have resulted only in the recovery of mud and salt water.

Rising Activity In Sections 32, 33

Now on settled production for more than two weeks, Universal Consolidated No. 1 in sec. 33, 11-19 is flowing 45 bbls. a day of 23 gravity oil cutting 0.1% through a 16/64 orifice, together with 350,000 cu. ft. of wet gas which is being processed by the new Rancho plant. In the same section, Reserve Oil Co. 33-3 is delivering 6,700,000 cu. ft. of gas with oil production now up to 70 bbls. daily and still increasing. In sec. 32 adjoining, The Petrol Corp. is preparing to spud Reserve-Petrol No. 1.

Six miles north in sec. 33, 12-19, Honolulu Oil Co. is drilling S.P.L. No. 1 below 5900 ft. and in sec. 23, 11-19 Ohio Oil Co. is approaching 5300 ft., neither well having yet encountered important showings.

Standard Morris No. 1 Below 11,300 In Trico

Exploration work in Tulare county will soon be undertaken by two Los Angeles operators. Crusaders Oil Co. is rigging up to drill a test well in sec. 1, 24-27, near Ducor and Dr. G. W. Turner, with Sy Wicker of Bakersfield, will drill soon in the same area.

In the Trico gas area Standard Oil Co. Morris No. 1, sec. 36, 24-23, is coring hard gray shale below 11,300 ft.

Deepening At Greeley For Rio Bravo Sand

In sec. 20, Standard is deepening No. 11-2 to the Rio Bravo sand discovered by Union Oil Co. in sec. 34, 28-25 four miles to the northwest at 11,302 ft. If production is obtained from the lower level at Greeley, the year 1938 will see an unprecedented deep drilling campaign. Standard's recent high gravity completions in sec. 20, Fleishauer Comm. No. 1 and KCL No. 11-9 are now flowing 165 bbls. with 2,700,000 cu. ft. of gas and 550 bbls. with 11,750,000 cu. ft. respectively, with the latter well showing the lighter oil, 64 degrees against 60 for the former. In the Fleishauer well a 20/64-in. orifice maintains flow pressure at 2000 pounds and casing pressure at 2200 pounds, while in 11-9 a 35/64-in. bean holds pressures to 1850 pounds and 2150 pounds.

May Extend Fruitvale North In Sec. 15, 29-27

Believing that the production found in Western Gulf's KCL B-28, 29 and 30 wells may be extended to the north, California Western and Pacific Oil & Gas Development have spudded wells in sec. 14, 29-27. On KCL property the former company is coring for the Fairhaven sand below 2900 ft. while the latter, operating on the Fanucchi lease, was last reported as coring heavy oil stained sand at 2953 ft. Should these wells be successful, Fruitvale will again become one of the most active Valley fields.

In sec. 27, 29-27, Western Gulf deepened and recompleted Red Ribbon No. 7 from 3540 ft. with initial yield of 600 bbls. of clean oil.

Greeley Outpost Failures Halt Drilling Activities

Failure of easterly outlying tests at Greeley to encounter productive sands at expected depths has resulted in the suspension of drilling in Standard's 12-3 in sec. 16, 29-26 and the halting of plans to drill other wells in the area. 12-3 was shut down at 5130 ft. when Superior's Krause No. 1, an offset in sec. 21, recovered only muddy salt water in a drill pipe test of the interval 7740 to 7800 ft. Now below 8000 ft., the well appears definitely out of the money.

Newhope 6, Poso Creek, Is 100-bbl. Producer

In the Poso Creek area, Pebble Beach Oil Co. has completed Newhope No. 6, in sec. 29, 27-27, from 2653 ft. with initial production of 100 bbls. cutting 20%. Located on the downthrow side of the fault, it was necessary to employ directional drilling to reach productive sands. Three miles east, in sec. 26, 27-27, North American Oil Consolidated is drilling in brown siltstone below 3100 ft.

Plug Kenda 4-18J To 10,810 Ft.

With the bottom 1000 ft. of hole lost due to a twist off, KNDA has decided to plug the 11,745 ft. No. 4-18J to 10,810 ft. and recomplete in the Eocene horizon it discovered last summer.

Wildcat Abandoned Near Mountain View

The Lamont wildcat of the Section Six Oil Co., located in sec. 6, 31-29, has been abandoned at 7565 ft. All sand bodies comparable to producing horizons in the nearby Mountain View field proved to be barren and no pipe other than 825 ft. of surface casing was used in the hole.

Gato Ridge Cont. 2 Pumps 415 Bbls.

Completing the first well in many months at Gato Ridge, O. C. Field brought in Continental No. 2, sec. 4, 8-32, pumping 415 bbls. of 14.5 gravity oil cutting 10%. Total depth is 4410 ft. with 8⅝-in. casing cemented at 3714 ft. and 725 ft. of 5¾-in. all perforated liner landed on bottom.

Negligible Showings In Semitropic Deep Test

Randolph Comm. No. 2, sec. 14, 27-23, Semitropic joint deep test of Standard and Fullerton Oil companies, is coring gray shale with occasional sand streaks below 8350 ft. Although several strong gas showings have been in evidence, drill pipe tests have revealed nothing of commercial importance.

Standard Abandons Test Near McGunden

After drilling to 5787 ft. with bottom in hard sandstone, the Standard Oil Co. has abandoned Routzong No. 1 in sec. 2, 30-28 near McGunden. No production tests were made, the best showing being five feet of poor oil sand cored at 3580 ft., 150 ft. above the top of the Santa Margarita.

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Coalinga	Petroleum Sec., Gatchell	2	18, 20-16		Rigging up
	Grimes, F. C.	1	12, 20-15		Rigging up
	Wilcox, J. F.	6	11, 20-14		Rigging up
E. Coalinga	Pure Oil Co., SPL	1	31, 18-17	9875	Drilling
Cantua Creek	Western Gulf SPL	4	3, 17-15	2100	Drilling
Ciervo	Superior O. Co., C.U.P.	1	20, 16-13	2250	Drilling
Clovis	Central Valley O. Co.	1	1, 12-20	435	Drilling
Jacalitos Hills	Jacalitos Pet. Co.	1	14, 21-15	5595	Drilling
	Dauphin Dev. Co., Boone	1	30, 21-14	3720	Flowing water
Panoche Hills	Gautier, J. A. Hubbard	1	12, 14-11	550	Idle
San Joaquin	Union Oil Co., Nicholson	1	17, 15-15	5250	Drilling
	Kern County				
Arvin	General Pet. Co., Pauley	1	22, 31-29	500	Idle
	General Pet. Co., Houchin	1	27, 31-29	7928	Plug 7361, Rig pump
	Petrex, Inc.	1	32, 31-30	2108	Drilling
Belridge	General Pet., St. Helens	1	12, 28-20	5850	Drilling
	Ohio Oil Co., Ford	1	6, 29-22	2025	Idle
Buena Vista	Ohio Oil Co., KCL	A-8	32, 31-26		Rigging up
Devils Den	Amerada Pet. Co., Beer	5	22, 26-19	5750	Drilling
	Little Major Oil Co.	1	36, 25-18	250	Drilling
Edison	McClurken O.&C. Co., Metro	1	6, 30-29	2590	Idle
	Johnson, G.W. Brown Paullettel		33, 29-30	830	Drilling
Grapevine	Honolulu Oil Co.	SPL-1	33, 12-19	5950	Drilling
	Ohio Oil Co.	D-2	23, 11-19	5375	Drilling
	The Petrol Corp.	32-2	32, 11-19	250	Drilling
Greeley	Continental KCL B	1	12, 29-26	10205	Redrilling at 9250
Lamont	Section Six O. Co., Johnston	1	6, 31-29	7565	Abandoned
McFarland	Shell Oil Co., Keystone	1	4, 26-27	350	Drilling
McGunden	Standard O. Co., Routzong	1	2, 30-28	5790	Abandoned
Mt. View	Texas Co., Bastian	1	34, 30-29	1625	Drilling
Poso Creek	Pebble Beach O. Co., Newhope	6	29, 27-27	2653	Pumping 100b/d
	No. American O. Cons.	1	26, 27-27	3130	Drilling
San Emigdio	Shell Oil Co.	KCL 4-26	26, 11-22	4550	Drilling
Temblor Hills	Chico Martinez-Exeter	2	1, 29-20	350	Drilling
Wasco	Continental O. Co.	KCL A-2	8, 27-24	11730	Drilling
	Kings County				
Pyramid Hills	Pyramid Prod. Co., Retherford	1	27, 24-18	1525	Drilling
Kettleman	Temblor O. Co., Bunting	1	25, 23-18	9138	Testing
	Tulare County				
Ducor	Crusaders Oil Co.	1	1, 24-27		Rigging up
Trico	Standard O. Co., Morris	1	36, 24-23	11285	Drilling

Coastal District

Sec. 35 Is Center of Santa Maria Interest

With California Lands, Inc., Jones-Gallison No. 1, sec. 26, 10-34 on for 625 bbls. of clean oil, the center of interest in the Santa Maria Valley field changes to Petroleum Securities Rembush No. 1 in sec. 35. Now being cored below 5100 ft., the top of the Santa Margarita was located at 4815 ft. and a series of formation tests made at regular intervals indicates the base of the Sisquoc below 4780 ft. will be productive. A test of the brown shale from 4830 to 4930 ft. resulted in no fluid recovery, and a test with bottom at 5050 ft. in a soft sand formation was unsatisfactory. Continuing the program of regular tests, the hole will be carried down to locate the Monterey, and the top of the Franciscan.

Testing Southwest

Southwest of the proven area, E. H. Moore, Inc., Union Sugar No. L-10, formerly called No. 5, is making a formation test at 6250 ft. after picking up the Santa Margarita at 6112 ft.

In section 28, Anderson & Swartz are preparing to drill an important test on lot 3 of the Paderewski Subdivision.

Section 27, "Hot Spot"

Section 27 retains its position as the "Hot Spot" with the completion of 2500-bbl. wells by A. D. Mitchell on the Wilson lease and Pacific Western on the Dal Porto property. Mitchell's Wilson No. 2 cored the top of the Monterey at 4264 ft., the Franciscan at 4597 ft. and bottomed at 4610 ft. With 7-in. casing cemented at 4270 ft. and a perforated liner landed on bottom, the well started flowing before tubing could be run. Dal Porto No. 2, with 9-in. casing cemented at 3963 ft. and bottom at 4256 ft., was pumped in, a customary procedure in this field.

Signal Adds Producer

Obtaining another nice well in section 26, Signal Oil & Gas brought in Highway Comm. No. 1, establishing a potential of 850 bbls. from 350 ft. of Monterey open to bottom at 4432 ft. Ranalho No. 1 in section 27, now drilling below 3700 ft., will be the company's next completion.

Camarillo Wildcats Not Encouraging

To date Camarillo wildcat tests have not been particularly encouraging, with only two wells active at the present time. Continuing in hard sands and shales, Richfield's McFarland No. 1 is now below 7000 ft. and Edwards No. 1 of the Texas Co. is approaching 5600 ft., neither well encountering anything like productive sands.

Awaiting the results of its neighbors, So. California Drilling Co. has suspended operations in Daly No. 2 at 3095 ft., the bottom being reported still in volcanic formation.

Oxnard Lennox No. 1 Pumps 80 Bbls. Heavy

Another heavy oil producer has been completed at Oxnard by Vaca Oil Exploration Co., Lennox No. 1 going on the beam at the rate of 80 bbls. a day cutting 10%. A combination water and surface string of 8⅝-in. casing was landat 2575 ft. and cemented at the shoe and through perforations at 1125 ft. Landed on bottom at 2885 ft. is a 6⅝-in. liner which includes 295 ft. of perforations.

Testing Vanoni No. 1

In the same area Oxnard Oil Co. has cleaned out Vanoni No. 1 to the top of the plug at at 6200 ft. and is continuing with a series of production tests. The well was plugged from its original 6302 ft. depth to test the heavy oil sands cored at higher levels.

Six Tidewater Strings In Ventura Avenue Field

With six strings of tools busy, Tidewater Associated is now by far the most active operator in the Ventura Ave. field. Beside the three wells now drilling on the Lloyd lease, two on the V. L. & W. and one on the Hartman, preparations are being made to spud three more.

Union Seeks To Boost Bardsdale Well Output

Union Oil Co. has decided to do further work on its recently completed Robertson No. 16 in the Bardsdale field after a continued production test showed a capacity of only a little more than 100 bbls. per day. The present bottom is at 6805 ft. in Eocene sandstone.

Union Sugar D-16 Is Small Producer

Offsetting Union's LeRoy No. 2 in the extreme west end of the field, E. H. Moore, Inc., Union Sugar D-16 (formerly No. 3) will produce only about 40 bbls. before pumping off each day. It is feared that drilling in under pressure has caused the walls of the hole to form a seal restricting the fluid entry.

Union Sugar No. I-1, the former No. 4, is now on settled production pumping 220 bbls. net daily with a water cut of 15%.

In sec. 22, Security No. 1 of the Union Oil Co. has been completed with initial production gauged at 120 bbls. cutting 8.4%. Bottomed at 4933 ft., the 8⅝-in. water string was set ten ft. below the top of the Monterey at 4700 ft. The 6⅝-in. liner contains perforations spotted from 4695 to 4795 ft. and from 4840 ft. to bottom.

In sec. 27, Dugan Oil Co. is running 8⅝-in. casing after coring the Santa Margarita at 4300, the Monterey at 4360 and the Franciscan at 4680 ft.

Western Resumes Los Olivos Test

The Los Olivos test of the United Western Oil Co., sec. 15, 7-30, has resumed operations after a short shut down period and is now making new hole below 2700 ft. in a hard shale.

Bergman To Test In Sec. 10, 6-5

Following reports that the Wilshire Oil Co. Cowell No. 1, sec. 20, 6-5 at Half Moon Bay, had passed through several good oil showings, the Bergman Oil Co. announced the location of a new test well two miles to the north in sec. 10, 6-5. Although previously prospected by Shell and others, Half Moon Bay is yet believed to be potential oil country.

Small Gasser In Sec. 22, 3-1

Texas Co.'s Eureka No. 2, sec. 22, 3-1, in Humboldt county, is now flowing 735,000 cu. ft. of gas under 1000 pounds pressure from the plugged depth of 6475 ft.

Coring Below 5700 Ft. South of Devil's Den

South of Devil's Den and west of Lost Hills in sec. 22, 26-19, Amerada's Beer No. 5 is coring hard gray sand below 5700 ft. Formation tests have been made of several gas zones, none of which resulted in any oil recovery and all showed salt water.

Houston Oil Show Declares Refunds

In accordance with the non-profit policy of the Oil-World Exposition Association, John R. Suman, vice-president of Humble Oil & Refining Company and president of the Association, has announced that a 20% refund will be made on the total amount paid for exhibiting space to all those who exhibited in the 1937 exposition.

The next oil show in Houston will not be held until 1939. The definite dates for this exposition will be decided by the board of directors at a meeting to be held early in 1938. The time, however, will be in the spring instead of October as it was in 1937. Before deciding on the 1939 show a questionnaire was sent to all exhibitors regarding the frequency with which oil shows should be held in Houston. Up to the present time, 193 replies have been received as follows:

Number of manufacturers or supply houses who want exposition every four years at Tulsa and every four years at Houston, nine; supply houses satisfied with either every two years or every four years at both Houston and Tulsa, one; manufacturers who want exposition every 18 months at Tulsa and every 18 months at Houston, one; manufacturers and supply houses satisfied to have exposition at Houston every four years provided Tulsa agrees to have exposition at Tulsa every four years, two; number of companies who want the Oil-World Exposition held in Houston every other year, alternating with the International Petroleum Exposition at Tulsa, 180.

Plans for the accommodation of more exhibitors, the necessity for which was clearly indicated by the 1937 show, are now being laid and final decision as to the type of construction to be used for exhibits not located in the Coliseum will be made at a meeting of the board of directors in the near future.

The United States government has just awarded Union Oil Co. a contract to supply 2,669,600 gallons of gasoline to federal agencies.

Union Is Deepening Santa Maria Well

Concluding an unsatisfactory production test at 4086 ft., Union Oil is deepening Cal Coast No. 17 in the old Santa Maria field.

Civil Engineering Laws

Warning that in California the practice of civil engineering may be lawfully carried on only by those who are duly registered under the Civil Engineers' Registration Law, and that many infractions by oil companies have been reported, H. M. Jones, secretary of the State Board of Registration for Civil Engineers, on December 27 requested the California Oil & Gas Association to assist in informing oil men of the situation.

Federal Legislation Reported

Additional federal legislation of interest to the oil industry includes the following: H. R. 8762, to amend the Revenue Act of 1936 with respect to the surtax on undistributed profits. To Ways and Means.

Richfield Redrilling Rincon Tideland Well

In the Rincon field, Richfield Oil Co. has plugged Hobson State No. 1, a tideland well, from 4281 ft. and is redrilling practically from the "seaweed roots".

Deep Santa Fe Springs Test Not Showing Impressively

Union Oil Co.'s deep Santa Fe Springs test, Bell No. 100, continues to be an enigma to production men as fluid enters the hole at only a low rate after being swabbed as low as 8500 ft. While being drilled, the well showed much life, encouraging the belief that world's deepest production honors would be brought to southern California by completing at the present depth of 11,314 ft.

Government Tanker Project

Construction of twelve high-speed oil tankers as a joint project of oil companies and the U. S. Government was considered in Washington, D. C., by the U. S. Maritime Commission on December 30.

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Cat Canyon	Standard O. Co., Los Flores	1	27, 9-33	3165	Drilling
Gaviota	Gaviota O. Co., Hollister	1	35, 5-33	3205	Shut-in—Gasser
	Wilshire O. Co., Hollister	1	35, 5-33		Rigging up
Refugio	Tweedy, A. E., Penn.	1	34, 5-31	575	Drilling
Santa Rita	O. C. Field Gas. Co., S.R.	1	11, 7-33	3360	Testing
Summerland	Gauthier Oil Co.	17-1	22, 4-26		Rig
	San Luis Obispo County				
Elkhorn	Calif. Prod. Co.	1	6, 10-24	975	Drilling
	Western Plains O. Corp.	1	7, 31-21	4010	Rigging up
Paso Robles	Ajax Land & Dev. Co., Moss	1	27, 26-13		Rig
	Vanguard Oil Co.	1	14, 37-14	2985	Drilling
	Ventura County				
Bardsdale	Little Canyon-Snodgrass	1	32, 4-19	1305	Idle
	Union Oil Co., Robertson	16	12, 3-20	6804	Cleaning out
Camarillo	Richfield O. Co., McFarland	1	13, 1-21	6965	Drilling
	So. Calif. Drlg. Co., Daly	2	26, 2-21	3090	Idle
	Texas Co., Edwards	1	19, 2-21	5650	Drilling
Oxnard	Oxnard O. Co., Vanoni	1	10, 1-22	6302	Plug 6200, Testing
	Vaca O. Expl. Co., Lennox	1	6, 1-21	2885	Pumping 75b/d
Ojai	High Mesa Oil Co.	1	16, 4-22	1200	Drilling
Red Mountain	Arnett, Frank E.	3	15, 4-21	1167	Drilling
Sespe	Colima Oil Co., Burge	2	29, 5-19	3497	Cleaning out
	Commander O. Co., Temescal	6-F	13, 4-19	2030	Testing
		7-F	13, 4-19	215	Idle
	Condor Oil Co.	1	6, 4-19	2195	Cleaning out
	Skyline Oil Co.	6	13, 4-19	2575	Drilling
	Speik Oil Co.	1	33, 5-19	3440	Testing
	Terry, Geo., et al	1	23, 5-20	1340	Idle
	Williamson Oil Co.	1	1, 4-20	540	Idle
Simi	Trucano, Germnaina	1	5, 2-17	510	Drilling
Shiells Canyon	Texas Co., Shiells	134	4, 3-19	4432	Testing
South Mt.	Texas Co., Richardson	5	13, 3-21		Rig
Tar Creek	Section 20 Oil Co.	1	20, 5-19	1038	Cleaning out
	Topa Topa Oil Co.	1	33, 5-19	4590	Plug 3700, Pumping
Timber Canyon	Stallings, Senter, Ahlberg	1	24, 4-21	430	Drilling

State Drilling Report

NEW WELLS

Field	Company	Well	No.	Sec.	Twp.	Rang.
Wilmington	Richfield Oil Corp.	Pacific Dock	2, 4, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20	35	4S	13W
	Richfield Oil Corp.	Pacific Dock	5 & 6	3	5S	13W
	Richfield Oil Corp.	P & G	2, 3 & 4	2	5S	13W
	Richfield Oil Corp.	Westside Comm.	1	35	4S	13W
	Richfield Oil Corp.	Star Drilling	1	35	4S	13W
	Richfield Oil Corp.	R. O. Terminal	3	35	4S	13W
	Richfield Oil Corp.	Richfield Terminal	1, 2 & 3	2	5S	13W
	Black Gold Corp.	Black Gold	7	32	4S	13W
	Hancock Oil Co.	Harbor	A-1	2	5S	13W
	General Petroleum Corp.	Harbor Comm.	2 & 9	2	5S	13W
	General Petroleum Corp.	S. P.	3	2	5S	13W
	General Petroleum Corp.	Blinn	2	35	4S	13W
	The Texas Co.	Refinery	2	34	4S	13W
	Selegna Pet. Corp.	F. H.	1	32	4S	13W
	Selegna Pet. Corp.	F. H.	14	33	4S	13W
	Bankline Oil Co.	C. Y.	4	34	4S	13W
	Superior Oil Co.	Leonard	1	2	5S	13W
	Superior Oil Co.	Cerritos Slough	1	2	5S	13W
	Gus Pongratz	Ashbridge Comm.	1	32	4S	13W
	Pongratz Pet. Co.	Gilmore	1	32	4S	13W
Newhall	West Coast Dev. Co.	Broughton	2	27	4N	16W
Richfield	Standard Oil Co.	Kraemer 2	26	32	3S	9W
Long Beach	Union Oil Co.	Oil Operators	4	13	4S	13W
	Richfield Oil Corp.	Bixby	4	13	4S	13W
	Edward D. Power	Power	3	20	4S	12W
El Segundo	Standard Oil Co.	Refinery	8	13	3S	15W
	Wilshire Oil Co.	El Segundo Const. Co.	1	12	3S	15W
	Ohio Oil Co.	A. S. Gough	11	7	3S	14W
	The Termo Co.	Termo-Elsie	2	12	3S	15W
Los Angeles County	Rolling Hills Pet. Co.	Rolling Hills	1	27	4S	14W
Rosecrans	Union Oil Co.	Rosecrans	18	18	3S	13W
Domingues	Union Oil Co.	Callender	58 & 59	33	3S	13W
San Luis Obispo	Calif. Pet. Prod. Co.	Jobe	1	6	10N	24W
San Mateo Co.	Bergman Oil Co.		1	10	6S	5W
Temblor	Chico Martinez Oil Co.	Exeter	1	1	29S	20E
Sunset	Otis Hoyt	O. Hoyt Maricopa	8	7	11N	23W
	Pattiway Oil Corp.		4	12	11N	24W
Midway	C. C. M. O. Co.		76	6	32S	23E
Rio Bravo	George F. Getty, Inc.	Ramsey	B-1	35	28S	25E
	Superior Oil Co.	J. I. & V. L. Geisinger	1	35	28S	25E
Kern River	Kern River Oilfields of Calif., Ltd.		25-4B	25	28S	27E
	V & W Developing Co.	Robinson	1	28	28S	27E
Poso Creek	N. American Oil Cons.		2	26	27S	27E
Ten Section	Ohio Oil Co.	KCL-E	4	13	30S	25E
Fresno County	Western Gulf Oil Co.	S. P. Land Co.	4	3	17S	15E
Santa Maria Valley	Hancock & Bush	Rosenblum	2	25	10N	34W
	California Lands, Inc.	Jones-Gallison	2	26	10N	34W
	Signal Oil & Gas Co.	Romanlho	2	27	10N	34W
	George F. Getty, Inc.	Vicente	2	27	10N	34W
Belridge	Ohio Oil Co.	Ford Permit	1	6	29S	22E
	Ohio Oil Co.	Kern County Land Co.	A-8	32	31S	20E
	The Texas Co.	J. D. Martin	3	22	27S	20E
Round Mountain	Marcan Oil Co.		2	12	28S	28E
	Shell Oil Co.	Caldwell	19	7	28S	29E
	Crestmont Oil Co.	Staley	2	8	28S	29E
	H. A. McDonald	Larkin	2	12	28S	28E
	Eastmont Oil Co.	Olcese	5	16	28S	29E
Coalinga	Petroleum Securities Co.	Gatchell	2	18	20S	16E
	John F. Wilcox		6	11	20S	14E
	Franklin C. Grimes		1	12	20S	15E
Kettleman No. Dome	Standard Oil Co.		87	1	22S	17W
Fruitvale	Pacific O. & G. Dev. Corp.	Panucchi	1	14	29S	27E
	Calif. Western Oil Co., Ltd.	K. C. L.	1	14	29S	27E
Greeley	Standard Oil Co.	Calder-Klassen Comm.	1	20	29S	26E
	Standard Oil Co.	K. C. 11	13	20	29S	26E

DEEPEN OR REDRILL

Playa Del Rey	Venice Oil & Refining Co.		6	28	2S	15W
	S. W. Oil & Dev. Co.	Fairfield	3	21	2S	15W
	Union Oil Co.	Del Rey	16	27	2S	15W
Huntington Beach	The Petroleum Co.	Huntington B. Fee	1	10	6S	11W
	W. P. R. Oil Co.		1	35	5S	11W
Torrance	Harry Fisher	Watkins	1	23	4S	14W
Seal Beach	Heilman Estate		17-A	11	5S	12W
Santa Maria Valley	Union Oil Co.	Cook	1	30	10N	33W
Cat Canyon	O. C. Field Gasoline Corp.	Continental	2	4	8N	32W
Coalinga	General Petroleum Corp.	California	7-A	6	21S	15E
Long Beach	R. R. Bush Oil Co.	H & W	1	29	4S	12W
	Miley Petroleum Corp.	Miley-Signal	2	19	4S	12W
	The Texas Co.	Flower State	3	29	4S	11W
	General Petroleum Corp.	Clock	1	19	4S	12W
Fruitvale	Western Gulf Oil Co.	Red Ribbon Ranch	7	27	29S	27E
	Trico O & G Co.	Knowles	2	23	29S	27E
Mountain View	Petrol Producing Corp.	Noble-Petrol	1-A	30	30S	29E
	The Texas Co.	Mateo Smith	3	14	30S	28E
	Barnsdall Oil Co.	Morris	5	32	30S	29E
Midway	General Petroleum Corp.	Shale 14	20-A	14	31S	22E
Kern River	Standard Oil Co.		2	21	28S	27E
Montebello	Richfield Oil Corp.	Clocca	2	5	2S	11W
	Fullerton Oil Co.	McGinley	5	6	2S	11W

ABANDON

Inglewood	Standard Oil Co.	Vickers	1-3	17	2S	14E
Santa Fe Springs	Standard Oil Co.	S. Whittier Comm	2 & 3	5	3S	12W
	General Petroleum Corp.	Santa Fe Comm.	191-D	6	3S	11W
Coyote Hills	General Petroleum Corp.	Murphy-Coyote	4	18	3S	10W
Long Beach	Aberdeen Oil Co., Ltd.		5	29	4S	12W
	Mitchell Trustees	W. C.	1	13	4S	13W
	Richfield Oil Corp.	Haas	3	30	4S	12W
Newport	Joseph H. Olson	Mesa	2	21	6S	10W
	Interstate Oil Corp.	Norris	1	17	6S	10W
Torrance	Richfield Oil Corp.	Kleinmeyer	1-A & 2-A	24	4S	14W
	Richfield Oil Corp.	Kleinmeyer	6-A, 9-A & 1-B	19	4S	13W
Mesa	Paul L. Kelley		1	28	4N	27W
Elk Hills	Standard Oil Co.	Tupman	37	36	30S	24E
Poso Creek	Pacific O & G Dev. Corp.	Davidson	2	30	27S	27E
Midway	The Texas Co.		18	24	31S	23E
	The Texas Co.	Dorothy	1	34	32S	24E
	The Texas Co.	Thornber	4	34	31S	24E
	Holly Development Co.	Evans	1	15	32S	23E
Orange County	Shell Oil Co.	Harbeson	1	9	4S	10W
Domingues	Shell Oil Co.	Reyes	57	34	3S	13W
Sespe	Clampitt & Withrow		11	1	4N	20W
Mountain View	The Texas Co.	Mateo Smith	1	14	30S	28E
	Standard Oil Co.	Routsong	1	2	30S	25E
Fruitvale	Lamaro Petroleum Co.	Davis	1	21	29S	27E
Kern County	Superior Oil Co.	K. C. L.	10	3	30S	26E
Coalinga	The Texas Co.		C-17	12	20S	14E

Summary	This Week	Previous Week	To Date This Year	To Date Last Year
Total New Wells	47	36	1631	1081
Total Deepened or Redrilled	10	14	703	792
Total Abandoned	13	23	571	468

California Crude Oil Production

For Two Weeks Ending December 28, 1937

Field	December Daily Quota	Average Daily Production	Excess
San Joaquin Valley			
Belridge—North	16,470	15,946	*524
Belridge—South	1,935	1,582	*353
Buena Vista	18,355	17,734	*621
Canal	450	459	9
Coalinga—			
East and West	16,845	15,026	*1,819
Coffee Canyon	4,060	5,106	1,046
Edison	3,455	3,846	391
Elk Hills	8,735	11,038	2,303
Fruitvale	8,385	8,956	571
Greeley	3,850	3,866	16
Kern Front	10,300	10,075	*225
Kern River	5,250	2,555	*2,695
Kettleman No. Dome	79,760	81,505	1,745
Lost Hills	4,905	3,696	*1,209
McKittrick	3,755	4,217	462
Midway-Lakeview	10,915	16,906	5,991
Midway-Maricopa	37,130	38,047	917
Mount Poso	17,470	20,369	2,899
Mountain View	15,090	15,219	129
Rio Bravo	450	2,584	2,134
Round Mountain	9,930	12,837	2,907
Ten Section	3,650	3,884	234
Other Fields	2,765	2,550	*215
TOTAL	283,910	298,003	14,093
Coastal Counties			
Elwood	6,955	7,736	781
Rincon	2,935	3,075	140
Santa Maria	17,945	14,404	*3,541
Santa Paula-Newhall	5,165	5,000	*165
Ventura Avenue	33,170	35,126	1,956
Other Fields	6,575	7,630	1,055
TOTAL	72,745	72,971	226
Los Angeles Basin			
Alamitos-Seal Beach	8,950	9,510	560
Brea-Olinda	8,930	6,103	*2,827
Coyote—East	3,080	4,412	1,332
Coyote—West	9,295	8,619	*676
Domingues	25,280	29,420	4,140
El Segundo	7,915	21,374	13,459
Huntington Beach—New	16,450	20,390	3,940
Huntington Beach—Old	14,615	16,394	1,779
Inglewood	16,020	16,320	300
Long Beach	52,235	58,224	5,989
Montebello-Extension	7,325	7,589	264
Playa del Rey	7,440	7,829	389
Richfield	8,700	10,260	1,560
Rosecrans-Athens	2,645	5,385	2,740
Santa Fe Springs	36,690	41,190	4,500
Torrance	6,785	7,317	532
Wilmington	45,700	61,284	15,584
Other Fields	2,055	2,356	301
TOTAL	280,110	333,976	53,866
STATE TOTAL	636,765	704,950	68,185

*—Shortage.

Pipeline Rate Boost

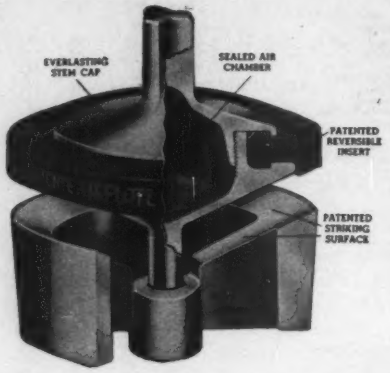
Increases in charges along the lines of rail increases sought by the railroads and contemplated by motor carriers and water lines are being considered by the nation's 50-odd oil pipe line companies to maintain virtually intact the existing differentials. An increase in pipe line charges would not require the prior approval of the I.C.C. as the commission has outstanding no maximum rate orders affecting this industry.

Canal Toll Relief

Companion bills exempting intercoastal trade from Panama Canal tolls have been introduced in the Senate, and the House. The Senate measure (S. 3032) has been referred to the interoceanic Canals Committee; the House measure (H. R. 8482) to the Merchant Marine and Fisheries committee. The bills would have the effect of relieving the petroleum industry from paying 15 % of total tolls collected at the canal.

MacClatchie Airflote Valve

An improved type of a slush pump valve has been developed and patented by the MacClatchie Manufacturing Co., and after a number of months of field testing and perfecting, it is now ready for general distribution. This new valve, known as the Airflote, has an air chamber constructed in the body of the valve itself, and in this steel chamber lies the secret of the greatly improved performance, company engineers say. The arched construction not only adds strength and rigidity to the body of the valve, but also decreases the weight of the valve and increases the displacement. In air the valve is approximately 20% lighter than other types of the same corresponding size, and when submerged in fluid, the difference in effective weight becomes even greater because of the larger displacement and greater buoyancy of the valve.



The reduced weight improves the efficiency and life of the valve by reducing destructive hammering, and increasing the sensitivity of the valve to slight changes in the fluid movement. Much quicker seating and less fluid slippage at each reversal of the pump stroke are important results of this increased sensitivity.

In addition, the new Airflote Valve has and outer edge that is considerably thicker than heretofore, and is designed to withstand the high impact strains and terrific cutting action of the high pressure fluids in today's deep well pumps. Another new feature is the large diameter thread by which the various parts are held together. This thread has a shoulder like a tool joint. That it is positively leak proof, will not jar loose in service, and yet can be readily unscrewed when desired to change rubbers, are among the claims made for this valve. This valve has reversible rubber inserts which are said to provide double life and double efficiency, and it also has the large streamline striking surface on the valve seat that materially lengthens the life of the entire valve assembly by decreasing the impact stress per unit and by maintaining these parts in proper alignment throughout the life of the valve.

The new MacClatchie Airflote Valve is an addition to the MacClatchie line of Slush Pump Valves. The Streamlined Valve will continue to be manufactured.

Martin-Decker Unitized Gauge

Martin-Decker Corp. has developed a new Unitized Mud Pump Gauge that is one of the most rugged instruments ever built for measuring slush pump pressures, the manufacturers claim. It is strong and compact, and it is completely engineered to give smooth accurate readings of slush pump pressures under all conditions. It is unaffected by rapidly surging pressures or by circulating fluids, and its mechanism is especially constructed to withstand the extreme vibration of the slush pump. It contains all the features of the well-known Martin-Decker Individual Mud Pump Gauge, but does not require the use of tubing or fittings to connect it. In fact, it is as easy and quick to install as a bull plug or swaged nipple, and just as easily moved from rig to rig.

This new gauge embodies a patented Diaphragm Unit, a patented Pulsation Damper, and the latest type Indicator Gauge, all unitized into one compact case. The Diaphragm Unit is built and tested for a 5,000-pound working pressure, and by means of a flexible separator completely seals the mud out of the gauge mechanism. The gauge and damper system is filled with a non-corrosive, non-freezing fluid that assures accurate pressure readings under all conditions and gives complete protection to the gauge mechanism. The built-in Pulsation Damper has an infinite range of adjustments which give smooth readings unaffected by pressure surges, yet allow instant sensitivity to actual pressure changes. This element not only assures complete readability of the gauge hand at all times, but also protects the gauge mechanism from the destructive wear and tear of constantly pulsating pressures.

The Indicating Gauge is of the Vernier retard type recently developed by Martin-Decker, and combines both extreme sensitivity and high capacity in the one unit. For instance, on the 3,000 pound gauge the first 1500 pounds of pressure readings are spread over 240 degrees of dial circumference, while from 1500 to 3000 pounds an automatic dial retarder compresses this range on only 60 degrees of dial circumference. Thus the gauge gives extreme fidelity to all the slight pressure changes of ordinary circulating work, yet has ample capacity and safety to cover the occasional peaks of high pressure operations.

The Unitized Mud Pump Gauge is completely sealed at the factory and requires no pumping up or filling of the fluid system. It is recommended for work where a chart is not required, where installation time is a factor, and where maximum portability is essential.

Forty cents of the motorist's tax dollar is spent on highways, 25c is allocated to local units, 16c is diverted to non-highway uses, 14c goes for payment on debts, 4c for collection and administration expense and 1c for state police.

Tulsa Oil Show Plans Huge Building Program

With a $250,000 new building program announced, the International Petroleum Exposition will have the largest show in its history May 14 to 21, according to W. G. Skelly, president. The plant will include 10 new structures on the 25-acre Exposition site, with an addition of 35% more exhibit space.

Mr. Skelly said that more space had already been sold for the 1938 show than was reserved for the entire 1936 show. Three of the buildings are being erected by the Exposition and seven by individual exhibitors. There will be more than 27 buildings erected on the grounds by individual exhibitors for the May show, as well as the six main Exposition exhibit structures.

Buildings being erected by the Exposition are: a $40,000 exhibit building with 128 additional booths; a $30,000 modernistic air-cooled cafeteria building; and a new $10,000 two-story office building.

Included in the seven firms' new permanent buildings are: W. C. Norris Manufacturing Co.; Gaso Pump and Burner Manufacturing Co.; International Harvester Co.; Oil Well Supply Co.; Bovaird Supply Co.; Hinderliter Tool Co.; and Petroleum Engineer Publishing Co.

BJ Perfects Eccentric Cable Tool Underreamer

An eccentric type of cable tool known as the BJ Underreamer Drilling Bit has been announced by Byron Jackson Co. of 2105 East Slauson Ave., Los Angeles. This tool has been designed to make fast, straight, vertical full-gauge hole while carrying the casing and at the same time underream the hole to a diameter large enough for the casing to be lowered and moved freely. The casing can be carried close behind the bit in all types of formation—only a few feet of open hole need be present at any time—and the conventional underreamer is not required.

This tool consists of a pilot bit above which is an eccentric reamer cutter and stabilizer. The design conforms to that of the new BJ Straight Hole Cable Tool Bit with the reamer made an integral part of the bit so that there are no joints and no expanding or detachable parts. The small diameter pilot bit is longer than the normal drilling stroke and acts as a straight hole guide.

Run Through Casing

The eccentric cutter and stabilizer permits the tool to be run through the casing, and yet cut a hole of larger diameter than the casing. Its cutting surface is considerably greater than the cutting surface of conventional underreamers.

Because of the eccentric position of the stabilizer, the tool is provided with another shorter stabilizing cutter. Both of these are positioned from 8 to 10 feet above the cutting edge of the pilot bit—the distance being governed by the diameter of the pilot bit.

In operation, as the short stabilizer enters the top of the pilot hole, the bit is brought to a true, vertical position for its entire length, so that the eccentric cutter and stabilizer cuts the formation to the desired diameter.

Sixteen Sizes

The Underreamer Drilling Bit is made in 16 sizes for casing ranging from 6⅝-inch to 18⅝ A.P.I. size. The diameter of the underreamed hole made is from 8 1/16 to 23 inches with size of pilot bit from 3⅜ inches to 12 inches. The length of the pilot bit is 6 feet for tools to run through 6⅝-inch and 7-inch casing; 8 feet for 8-inch to 9⅝-inch casing; 9 feet for 10¾-inch and 11¾-inch casing and 10 feet for all larger sizes.

The BJ Underreamer Drilling Bit has been designed to make it possible to carry the casing behind the bit and save one or more strings of casing. It will ream, as you drill, to as large a diameter as is possible with ordinary underreamers—in many cases to larger diameter than is otherwise possible. The design climinates danger of keyseating. The bit can be built up repeatedly by welding.

Construction and operating details together with specifications and dimensions will be furnished by the manufacturer upon request.

Ring's Shapiro No. 3 Added to Producers

While completing Shapiro No. 3, the Ring Oil Co. also completed its drilling campaign for the year in the northern section of Mt. Poso. Climaxing a remarkable record for developing substantial production in an area previously condemned, Shapiro No. 3 is "in" pumping 340 bbls. of 15.7 gravity clean oil from 55 ft. of Vedder sand to bottom at 1760 ft.

Louden No. 2 in the same section (32, 26-28), is apparently one of the few duds drilled by the Ring company. With water string at 1738 ft. and bottom at 1765 ft. the well yielded only a small amount of oil together with more than 400 bbls. of water on a pump test.

Bowles No. 5, recent completion in sec. 29, has settled to 320 bbls. daily.

Surveying Progress

R. H. Griffin, manufacturing superintendent, and F. M. Kehoe, in charge of research and development at the home office and plant of The Cavins Co., Long Beach, are on an extensive business trip through the Mid-Continent fields. They plan to spend some time at each of the Cavins headquarter agencies with a view of thoroughly checking into recent developments of The Cavins Hydraulic Suction Bailer and The Cavins Perforation Washer in the various oil fields.

Business and Professional Directory

THE
HANCOCK OIL COMPANY
of
CALIFORNIA

PRODUCERS - REFINERS
MARKETERS

J. R. PEMBERTON
Oil Umpire
1110 Security Title Insurance Bldg.
Los Angeles, Calif.
TRinity 9705

MARTIN VAN COUVERING
PETROLEUM ENGINEER
405 South Hill Street
LOS ANGELES
CALIF.
MIchigan 8781

THE PETROL
CORPORATION
Producers and Refiners
Petrol Gasoline - Super Petrol Gasoline
Kerosene - Fuel Oils - Diesel Oil - Asphalts
Road Oils - Lubricating Oils
Distillates
4020 Bandini Blvd. - Los Angeles, Cal.

GRAYDON OLIVER
PETROLEUM ENGINEER
215 West 7th Street
Los Angeles, Calif. VAndike 3696

Classified Advertisements

CLASSIFIED ADVERTISING RATES

Small type: 50c per line per insertion. Count six words to a line. Minimum charge $2.00. All classified advertising payable in advance. Four consecutive insertions at price of three, if copy does not change.

24 times .....$ 7.50 per inch
1 time ..... 10.00 per inch

Not responsible for more than one incorrect insertion.

WATER DEVELOPMENT GUARANTEED

Water surveying service. David Ramey, Phone Wilmington 1918, 507 Broad Ave., Wilmington, Calif. tf

REFINERIES AND GASOLINE PLANTS

Reconditioned or new heat exchangers, stills, fractionators, absorbers, condensers, at cut prices. Plants designed any size for any use. W. F. Pyne, 909 S. Ardmore Ave., Los Angeles. DRexel 1412. tf

SCOUT REPORTS

NEW MEXICO LEASEHOLDERS: For reliable information on New Mexico developments take my weekly scout report. W. S. Patterson, Santa Fe, N. M.

FOR SALE

No. 60 Armstrong All-Steel 3000 ft. Cable Tool Band Wheel Drill. 100 h.p. Gas Engine. 60 ft. Pat. Wire Line Derrick. With Tools. Subject inspection. $3000.00 as is where is, Grants, New Mexico. The Kaufman Co., 2020 Sacramento St., Los Angeles. I-20-B

PIPE

5,000 ft. 10¾" O. D. Std., plain end pipe; 500 ft. 12¾" O. D. plain end; also 20" riveted, heavy and other sizes all in good condition.
IMPERIAL PIPE & SUPPLY CO., 2901 Santa Fe Ave., Los Angeles, Calif. Phone JE. 1104. tf

OIL PROPERTIES WANTED

WANTED—OIL PROPERTIES. MUST HAVE GEOLOGY. CAN FINANCE WELL THROUGH LEASE SALES. BOX 5, OIL WORLD. 1-29-D

MAPS
Large map of Los Angeles Basin oil fields and map showing all California oil fields. Price $15.00 each on paper and $20 each on cloth. Individual state oil and gas maps of Mid-Continent and Rocky Mountain regions. Maps show geological cross sections at base. These maps indicate wells drilling, wells producing and abandoned, with depths.
All maps revised up to date of purchase.
JAMES C. BRANSFORD
1127 Story Bldg.
Los Angeles, Calif.
Phone: TUcker 7530

Foxboro Bulletin

The new Thermometer bulletin, 198-1, just issued by The Foxboro Co., Foxboro, Mass., is as free from technicalities and as interesting in arrangement as it is possible to make such a subject. A brief story on the value of thermometers is followed by separate descriptions of the thermometers associated with the Foxboro trade mark. Here everything is done to help the reader to find what he wants. The story of each class is complete and continuous. Its appearance, its range characteristics, its thermal system and its special bulbs are all illustrated and described within the limits of four pages. The same plan is followed for other sections of informatino. Everything is grouped under easily recognizable headings.

Men who know little of thermometry and men who have used therometers all their lives will equally find this bulletin easy to understand and to handle. A free copy of this valuable bulletin is available upon request to Foxboro.

Oil Men's Calendar

January

10-14 Society of Automotive Engineers, Detroit, Mich.
17-21 American Road Builders Association, Cleveland, Ohio.
24 Governor Marland's Petroleum Conservation Conference of Oil State Governors, Hot Springs, Ark.

February

14-17 American Institute of Mining and Metallurgical Engineers, Annual Meeting, Engineering Societies Bldg., New York.

March

16-18 American Association of Petroleum Geologists, 23rd Annual Meeting, Roosevelt Hotel, New Orleans, La.
23-25 American Society of Mechanical Engineers, Los Angeles, Calif.

April

13-15 National Petroleum Association, Cleveland, Ohio.
13-15 Petroleum Industry Electrical Association, Rice Hotel, Houston, Texas.
17-21 American Chemical Society, Dallas, Texas.
20-22 American Institute of Mining and Metallurgical Engineers, Open Hearth Conference, Buffalo, N. Y.

May

12-14 National Oil Scouts Assn. of America, Tulsa, Okla.
14-21 International Petroleum Exposition, Tulsa, Okla.
23-25 American Petroleum Institute, 8th Mid-Year Meeting, Wichita, Kan.
? Natural Gasoline Association of America, Hotel Tulsa, Tulsa, Okla.
? American Gas Association, Natural Gas Dept., New Orleans, La.

June

6 Oil Workers International Union, Houston, Texas.